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**TRAUMA AND BEREAVEMENT:
SYMPTOMATOLOGY, AETIOLOGY AND INTERVENTIONS**
A case of young survivors of the 1994 genocide in Rwanda

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To

My wife

Claire Bahati

and

My children

Christian Mukwiye

Ghislain Ngoga

Vanessa Umwali

Mélissa Umubyeyi

Guy Ngabo

I dedicate this accomplishment.

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GENERAL INTRODUCTION

« Des situations et des comportements observés au Rwanda d'après génocide, des paroles entendues, d'émotions ressenties, de réflexions et d'idées suggérées par ces situations, ces paroles et ces émotions renseignent sur l'importance des conséquences de ce génocide sur la société générale » (Gasibirege, 1995).

Exposure to traumatic events has deleterious effect resulting in considerable psychological (cognitive and affective/emotional), physical and social impairments. In contrast to natural disasters, victims of man-made disasters have been reported to be vulnerable to severe psychological and psychiatric disorders affecting a large number of abilities and lasting for many years. Among the most common psychiatric diagnosis associated with violence exposure is the Posttraumatic Stress Disorder (PTSD). Like adults, children and adolescents are not exempt from this situation.

Regardless of the age, there are convincing findings ascertaining that being exposed to traumas is with upheaval psychological outcomes. However, in addition to the nature and the magnitude of the traumatic experience, findings indicate that the development of post-traumatic syndrome is moderated and mediated by a number of objective and subjective factors. Especially for children and adolescents, the intensity of the traumatic event (nature, source and consequences) and the post-trauma change in their life are crucial to account for worse development and maintenance of PTSD syndrome.

In 1994, Rwanda experienced an unprecedented genocide in which about 800.000 Tutsi, for their majority, were atrociously murdered (UN). This genocide generated multiple

and massive stressors that may lead to severe and long-lasting PTSD among its survivors, including children and adolescents. Report on traumas exposure and psychological reactions to genocide among young survivors in Rwanda (Dyregrov et al., 2000) unanimously indicate a precarious situation. At the social level, children and adolescents heading household (CHH) are presumably the most vulnerable given their social deprivation. Moreover, the increased number of significant losses (parents, siblings, relatives, family and community cohesion) and the traumatic nature of the death predict traumatic grief among the young orphans of the genocide in Rwanda. The embedment of traumas and bereavement in this population is postulated to increase the likelihood of severe and persistent posttraumatic distress.

The research activities reported in this dissertation were motivated by my own professional experience inspiring challenging concerns to be addressed. My practitioner profile starts when working with local and international non-governmental organisations (e.g. World Vision International, International Rescue Committee) intervening in Rwanda post-genocide. From that time, I practice healing wounds from the genocide. In addition to that field experience work, I embarked on academic work since 2002 as Assistant Lecturer at the National University of Rwanda (NUR). Both experiences seem to be complementary in understanding why I was so motivated in studying traumas and bereavement associated with the genocide of Tutsi, especially with a population of young survivors.

Since 1997, just 3 years after the 1994 genocide was perpetrated, when working with the “*Community Mental Health Programme*”(PSMC), at the National University of Rwanda (NUR)“, I realized that survivors are confronted to a double overwhelming burden : the trauma from the horrific genocide experience and the grief from the loss of close relatives in

such circumstances. From that insight, and data from personal development workshops, the issues of traumas and bereavement became very sensitive for me.

With a new contract in 1999, my experience was with the “*Vulnerable Children Program* of the *International Rescue Committee* (USA). As a psychologist and programme coordinator, my task consisted of guiding orphans and foster families for reunification. The young people and volunteer families usually complied with the reunification programme. Later on, records indicated increased figures of children leaving their fostering families for the street or returning in unaccompanied children centres (orphanages). Why? It came to my understanding that such behaviours were related to unsolved traumas rather than to reunification unwillingness. In fact, reunified children were so traumatized and thus displaying symptomatic dysfunctional behaviours, which in turn confused their welcoming families. What lesson learnt from such an experience? I came to the conclusion that the “apparent calm” children could be with an unspeakable and unrecognized suffering resulting from the genocide and which may disrupt their social and functional abilities.

This profile drew me a causal pathway of the topic developed in this dissertation. Although the post-genocide situation seems challenging, and somehow interesting for research, there are few studies initiated to assess and follow-up the psychological consequences of the genocide in Rwanda. Apart from some international organisation’s consultancy reports (e.g. UNICEF, USAID-DCOF) and some cross-sectional studies, there are few in-depth studies assessing the long-term effect of the genocide. The limited reports on PTSD in Rwanda, and particularly about children and adolescents population are epidemiological; less oriented to explore how the trouble develops or worsens. Further, reported frightening data suggested vibrating need for further studies aimed at following-up

the development of post-traumatic syndrome, identifying risk factors and attempting intervention programmes to lower PTSD prevalence.

With regard to the genocide in Rwanda, especially the extent of its damages; it is hypothesized that psychological consequences from such disaster are crucial. Considering social categories of young survivors, CHH are hypothesized to be vulnerable to several psychological sequels given their social and economic living conditions. The trauma exposure history, traumatic bereavement of key caretakers and attachment figures (parents and other relatives), lack of adult guardianship, insecure family structures and precarious social support are risk factors predicting poor outcomes.

Fortunately, empirical and clinical findings proved that PTSD and its comorbid disorders can be treated. There are individual as well as group psychotherapeutic protocols that have been shown to improve PTSD symptoms. Withstanding cultural differences, it is postulated that in-depth studies can contribute in setting up proper therapeutic interventions addressing PTSD in Rwanda.

About the structure, this thesis consists of seven chapters, the general introduction and conclusion excluded. The two first chapters are theoretical and overview the literature related to PTSD (Chapter 1) and the association of trauma and bereavement (Chapter 2) resulting in a conjunction of PTSD and grief. They clarify issues related to symptoms and semiotic concepts, diagnostic and assessment protocols, and demonstrate how PTSD and grief can be embedded on certain aspects but not on others.

At the empirical level, findings from PTSD prevalence (chapter 3) and the association of PTSD and grief (chapter 4) among young people survivors of the 1994 genocide in Rwanda are presented. Furthermore, continuous exposure to post-genocide trauma reminders, deleterious socio-economic life conditions, coping strategies and PTSD comorbidity are presented as major risk factors to persistent and complex post-traumatic distress (Chapter 5). Finally, given our findings, a rumination focused cognitive and behavioural therapeutic (RFCBT) protocol is tested in a pilot sample (Chapters 6) and in a Randomized Controlled Trial (RCT) (chapter 7).

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Le trouble de stress post-traumatique chez l'enfant et l'adolescent

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Résumé

Le Trouble de stress post-traumatique (TSPT) chez les enfants et les adolescents a fait l'objet de nombreuses recherches. Ces études portent généralement sur des populations à risque, comme les enfants et adolescents victimes de catastrophes naturelles (incendies, tremblements de terre, éruptions volcaniques) et de violences humaines (torture, violence domestique, viol et abus sexuel, guerre, camps de concentration, épuration ethnique et génocides). La prévalence des symptômes du TSPT dans cette tranche d'âge est importante, contrairement à la croyance selon laquelle les enfants et les adolescents sont trop jeunes pour être affectés par les expériences de vie difficiles. Comparativement aux catastrophes naturelles, l'impact des guerres et des génocides est plus redoutable au vu de l'intensité et des conséquences que génère ce genre d'événement traumatique. En plus de l'horreur des événements, l'enfant et l'adolescent sont confrontés à des modifications importantes dans leur vie et à l'adaptation à un nouveau statut socio-économique (déplacé, réfugié, orphelin). Cet article effectue une revue critique de la littérature sur le TSPT chez les enfants et les adolescents et met l'accent sur la description nosologique et symptomatique, le diagnostic, l'épidémiologie et l'étiologie du TSPT. En amont, l'article met en exergue l'importance des violences humaines dans le développement et le maintien du TSPT chez l'enfant et l'adolescent compte tenu de leur intensité et de leurs conséquences.

MOTS CLES : enfant, adolescent, TSPT, guerre, génocide.

Abstract

Post-traumatic stress disorder (PTSD) in children and adolescents has been the main issue of several studies. These studies are usually based on populations at risk, such as child and adolescent victims of natural disaster (fire, earthquake, volcanic eruption) and human violence and conflicts (torture, inter parental violence, rape and sexual abuse, war, concentration camps, ethnic cleanings and genocide). With regard to empirical evidences, the prevalence rate of PTSD symptoms in that age group is considerable, in contrast with the naive belief that children may be too young to be affected by traumatic events. Compared to natural disasters, research has shown that the impact of war and genocide on children and adolescents is more severe, due to the intensity and consequences of such events. Besides the horror of a war situation, children and adolescents exposed to it have to adapt to dramatic changes in their every-day life (displaced, refugees, orphans). Thus, special attention to such events should be given in order to protect young people from long-lasting effects. With an emphasis on symptomatic description, diagnosis, epidemiological prevalence and etiological factors, this article reviews the existing literature related to PTSD among children and adolescents groups. Substantially, the role of human violence and conflicts in the onset and development of severe and long-lasting PTSD disturbances among children and adolescents is outlined in this article.

KEY WORDS: Children, adolescents, PTSD, war, genocide

L'enfance et l'adolescence constituent des phases de développement dont la traversée est souvent remplie d'embûches et de défis. Certaines circonstances extrêmes de la vie de l'enfant et de l'adolescent peuvent porter préjudice à leur intégrité physique et psychologique. Ces circonstances potentiellement traumatisantes peuvent être, entre autres, les catastrophes naturelles (incendies, tremblements de terre, éruptions volcaniques, les feux de brousses), les accidents de circulation, les violences humaines (guerres, épurations ethniques, génocides, violences domestiques et sexuelles). Cette dernière catégorie d'expériences s'avère plus traumatisante car elle génère une gamme importante de stress pour l'enfant et affecte considérablement diverses dimensions de sa vie (DSM III-R, APA 1989).

La notion de Trouble de stress post-traumatique (TSPT), en anglais Post-traumatic stress disorder (PTSD), qui est développée ici, renvoie aux conséquences à long terme, un critère du DSM IV (APA 1994) de ces situations traumatisantes. Le diagnostic de ce trouble a longtemps concerné les adultes et ce n'est que récemment (DSM III-R, APA 1989) que le syndrome fut reconnu et diagnostiqué chez des sujets, même très jeunes. Le présent article passe en revue cette littérature.

1. Description du trouble de stress post-traumatique chez l'enfant et l'adolescent

Les réactions des adultes à des événements potentiellement traumatiques, largement étudiées, ont permis de qualifier le trouble de syndrome car il résulte de l'association de trois catégories de symptômes. Par ailleurs, la population des enfants et des adolescents est restée non explorée. Les quelques études réalisées dans cette tranche d'âge sont restées anecdotiques et relativement peu fréquentes dans des situations de guerre (Fletcher, 1996). Ce manque d'intérêt serait dû, d'une part à la croyance naïve du moment que les enfants sont trop jeunes pour comprendre et être affectés et d'autre part, au fait que la notion de stress post-

traumatique n'en était qu'à ses débuts. Actuellement, des études s'intéressent à cette tranche d'âge, aussi bien qu'aux adultes, et confirment la prévalence des symptômes du TSPT.

1.1. Description nosographique

1.1.1. Définition

Le trouble de stress post-traumatique (TSPT) qualifie un trouble anxieux fréquemment observé suite à un événement extrême (Sydor & Philippot, 1996) et potentiellement traumatisant. Il est constitué par un ensemble de réactions psychologiques et psychophysiologiques consécutives au stress provoqué par un événement traumatique. Le diagnostic du trouble suppose au départ un stimulus précis, c'est-à-dire l'exposition à une expérience traumatique, et qui déclenche une réaction de peur intense et un sentiment d'impuissance chez la victime. Les effets de cette expérience sont vécus par le sujet comme accablants du fait même du caractère soudain et inattendu de l'événement (Figley, 1985). De tels effets d'une exposition au danger incluent des idées de vulnérabilité (invalidation des croyances fondamentales), d'impuissance, de perte de contrôle et d'incertitude, ainsi que des sentiments d'anxiété profonde ou d'horreur (Brillon, Marchand, & Stephenson, 1996).

Mais, quel événement est susceptible d'être traumatique ? Le critère A du DSM IV (APA, 1994) décrit deux conditions nécessaires pour qu'un événement soit catégorisé de traumatique:

1. Le sujet a vécu, a été témoin ou a été confronté à un événement ou à des événements dans lesquels des individus ont pu mourir ou être gravement blessés ou bien ont été menacés de mort ou de graves blessures ou bien durant lesquels son intégrité physique ou celle d'autrui a pu être menacée ;

2. La réaction du sujet à l'événement s'est traduite par une peur intense, un sentiment d'impuissance ou d'horreur. Chez les enfants, un comportement désorganisé ou agité peut se substituer à ces manifestations.

Définissant l'événement traumatique, Green (1990) précise les conditions qui déterminent le potentiel de l'événement pour être traumatique. Ces conditions sont notamment les circonstances où (1) l'événement constitue une menace à l'intégrité physique et psychologique, (2) l'individu a subi des torts ou blessures physiques sévères et (3) des torts ou des blessures volontaires, ce caractère humain et volontaire de l'événement traumatique a été relaté comme présentant un risque plus élevé d'apparition de troubles (Frederick, 1985), notamment par rapport aux catastrophes naturelles, et donc involontaires, (4) l'individu a été exposé au spectacle de la blessure, de la mutilation ou de la mort et spécialement lorsque le corps humain est dénaturé, (5) l'événement a conduit à la perte violente ou subite d'un être cher, (6) l'individu a été témoin ou a appris qu'une violence a été infligée à un être cher, (7) l'individu a appris qu'il a été exposé à un agent nocif, (8) l'événement a provoqué la mort ou des dommages sévères à autrui.

Une telle description des conditions qui sous-tendent l'apparition du Trouble de stress post-traumatique renseigne sur la particularité de l'événement et des réactions déterminant ce trouble. Par ailleurs, une distinction doit être faite entre le TSPT et l'État de stress aigu, généralement qualifié en anglais de "Acute Stress Disorder" (ASD).

1.1.2. Trouble de Stress post-traumatique et l'État de Stress Aigu (ESA)

Le DSM IV (APA, 1994) établit une distinction entre le trouble de stress post-traumatique (TSPT) et le trouble de stress aigu (ESA). Ce dernier renvoie aux réactions de stress

traumatique succédant directement à l'événement traumatique et dont la durée va de deux jours à quatre semaines. Les critères de diagnostic du trouble de stress aigu sont moins stricts et les symptômes incluent des aspects dissociatifs qu'on ne retrouve pas dans le TSPT. De plus, chez l'adulte, l'ESA n'est pas toujours un bon prédicteur du TSPT, c'est-à-dire que l'acuité des réactions initiales ne prédit pas nécessairement la chronicité (Bryant & Harvey, 1998 ; Harvey & Bryant, 1999).

Cependant, il n'existe pas à présent d'études qui aient vérifié la relation entre l'ESA et le TSPT à long terme chez les enfants, ou si les critères de diagnostic de l'ESA sont applicables aussi bien aux enfants qu'aux adultes (Salmon & Bryant, 2002). Il est indéniable que les critères de l'ESA ont été établis à partir de l'observation d'adultes ayant survécu à des traumas, et dès lors les réactions aiguës (émoussement affectif, confusion, déréalisation, dépersonnalisation, amnésie dissociative) émanent d'études faites auprès d'adultes (Spiegel, Koopman, Cardena, & Classen, 1996). Il est important de souligner qu' avant d'appliquer les critères de l'ESA aux enfants, il serait capital que des études prospectives soient menées auprès d'enfants à différents stades de développement et ayant subi différents traumas pour décider des critères d'évaluation.

Une telle argumentation semble nier la relation qui existerait entre l'ESA et le TSPT et pourtant qui est déterminante dans les critères du DSM IV (critère A-2) (APA, 1994). Le propos de cet article consiste à souligner différents éléments. D'abord, l'enfant ou l'adolescent peut se remettre des réactions aiguës au moment du trauma sans qu'il soit susceptible de développer un TSPT à long terme. Ensuite, l'enfant ou l'adolescent, et d'ailleurs l'adulte, peut ne pas réagir directement au trauma mais par la suite développer un TSPT. Les théories cognitives (Ehlers & Clark, 2000) font état d'un TSPT différé qui est

souvent déclenché par des signaux internes ou externes associés à une mémoire traumatique. De plus, le jeune enfant ne réagira pas directement car sa capacité cognitive ne lui permet pas d'apprécier directement l'ampleur de l'événement mais il va plutôt réagir aux réactions des parents. Un tel scénario se présente dans des situations de guerre où l'enfant peut être toujours rassuré par ses parents quand bien même la situation est critique. Ce cas de figure est remarquablement illustré par le film « la vita e bella ».

1.1.3. TSPT complexe

Actuellement, des données provenant de recensions des écrits et des vérifications empiriques font émerger une volonté de définir une catégorie supplémentaire du TSPT à savoir celle des “Troubles de Stress Extrême Non Autrement Définis” (TSENAD)¹ (Yule et al., 1999, p.36). Certains chercheurs pensent qu'il existe une différence d'effet entre les événements singuliers et les événements à stress multiples et répétés. Dans sa classification, Terr (1991) postule que les événements sont soit du type I, soit du type II.

Selon l'auteur, le type I inclut les événements qui sont de courte durée, soudains, inattendus, à occurrence isolée, et dont les symptômes sont typiques (par exemple la peur après un accident reste attachée à des situations similaires). Par contre, le type II concerne les événements dont la durée est prolongée, à occurrence répétée et pour lesquels l'intention de nuire d'un tiers est centrale. Dans cette catégorie, on classe les abus et violences sexuelles, les guerres, les épurations ethniques et les génocides. De tels événements conduisent à des symptômes dissociatifs plus importants que dans le premier type au vu de la multiplicité des stress et de l'ampleur de l'adaptation que cela suppose. Dans son travail avec les adultes, Herman (1992) argumente en faveur d'une définition différentielle du PTSD et du TSENAD.

¹ En anglais : Disorders of Extreme Stress Not Otherwise Specified (DESNOS)

Ce trouble résulte de stress multiples susceptibles de produire des réactions psychologiques différentes.

Le syndrome TSENAD est composé de cinq regroupements ; à savoir 1) des changements dans la gestion des émotions, 2) une perturbation de l'attention et de la conscience, 3) de la somatisation, 4) des changements de la personnalité et 5) un affaiblissement du système des normes et valeurs (Yule et al., 1999). Le TSENAD constitue un diagnostic du TSPT consécutif à des stress multiples. Un tel diagnostic s'applique aux personnes grièvement traumatisées à un jeune âge (victimes des violences humaines répétées) et à des personnes victimes d'un traumatisme persistant (torture, camps de concentration, génocide). Le caractère *complexe* renvoie à la difficulté d'adaptation au traumatisme et aux déficits subséquents ; à savoir les déficits cognitifs, conatifs, socio-affectifs, l'altération de la personnalité et des problèmes de comportement qui en sont l'expression.

1.2. Symptômes caractéristiques du TSPT.

Le DSM IV (APA, 1994) définit le TSPT comme étant un syndrome caractérisé par trois groupes de symptômes importants dont les intrusions des pensées, des images et des sentiments liés à l'événement traumatique (critère B), l'évitement des stimuli associés à l'événement (critère C) et l'activation neurovégétative au rappel de l'événement (critère D). Ces critères diagnostiques du TSPT sont aussi valables pour les adultes que pour les enfants et les adolescents. Cependant, chez l'enfant, les symptômes du TSPT sont exprimés par des comportements agités et désorganisés, des jeux rappelant l'événement traumatique. De plus, la difficulté réside en la distinction entre les aspects liés au développement de l'enfant (ex. accès de colère à la période préadolescente) et les aspects du trauma. Les recherches ont permis de préciser le nombre de symptômes de chaque catégorie permettant un diagnostic du

TSPT chez les enfants et les adolescents (Benedek, 1985; Green, 1991 ; Green et al., 1991). Ainsi, le diagnostic du TSPT chez l'enfant et l'adolescent, comme chez l'adulte, exige la présence d'un symptôme de re-expérience de l'événement traumatique, trois symptômes d'évitement/émoussement et 2 symptômes d'activation neurovégétative (American Academy of Child and Adolescent Psychiatry, AACAP, 1998). Les critères diagnostiques adaptés à l'enfant sont présentés dans le Tableau 1. Toutefois, une souplesse dans le diagnostic est recommandée pour le cas des enfants.

Des études faites à partir de ces critères du DSM ont conduit à la conclusion selon laquelle le TSPT est présent chez les enfants et les adolescents au même titre que chez les adultes. Les premières données concernant les réactions post-traumatiques spécifiques chez les enfants et les adolescents commencent à apparaître dans les années 1970 et 1980, essentiellement dans des sources anecdotiques et non-empiriques (Benedek, 1985; Eth & Pynoos, 1985; Frederick, 1985; Galante & Foa, 1986; Newman; 1976; Terr, 1979, 1983, 1991). Les études de Terr faites auprès des enfants de Chowchilla victimes de kidnapping en 1976 en Californie sont un bon exemple de ces recherches. La première recherche de Terr (1979), portant sur une population de 23 des 26 enfants kidnappés, dont 6 garçons et 17 filles d'une tranche d'âge de 5 à 14 ans dans les 6 à 10 mois qui ont suivi l'enlèvement, observa que les réactions des enfants de Chowchilla étaient caractéristiques du TSPT. Les symptômes observés chez ces enfants étaient similaires à celles qui sont trouvées chez les adultes traumatisés. Cependant, à la différence des adultes, les enfants réagissaient selon des moyens spécifiques à leur âge à travers les jeux et des comportements agités.

Table 1

Les critères de diagnostic du Trouble de stress Post-traumatique (TSPT) selon le DSM IV (1994²) adaptés à l'enfant

CRITERE A	CRITERE B	CRITERE C	CRITERE D	CRITERES E&F
<i>Trauma(2)³</i>	<i>Symptômes de re-expérience (1 ou +)</i>	<i>Engourdissement et Evitement (3 ou+)</i>	<i>Symptômes d'activation neurovégétative (2 ou +)</i>	<i>Conditions supplémentaires</i>
1. Présence d'un événement traumatique	1. Pensées intrusives du trauma ou des <i>jeux post-traumatiques répétitifs</i>	1. Evitement des pensées / sentiments	1. Difficultés d'endormissement	1. Durée : plus 1 mois (critères B, C et D)
2. Réaction intense ; exprimée par des <i>comportements agités et désorganisés</i>	2. Cauchemars permanents (<i>inclus ceux avec/ou sans contenu reconnaissable</i>)	2. Evitement d'activités/ personnes	2. Irritabilité ou accès de colère	2. Perturbation significative et cliniquement observable, Altération du fonctionnement social, professionnel
	3. Flashs ou <i>reconstitutions (reenactment) spécifiques de la scène traumatique</i>	3. Incapacité d'évoquer l'événement	3. Difficultés de concentration	
	4. Détresse intense aux indices évoquant le trauma	4. Perte ou réduction d'intérêt dans des activités significatives	4. Hypervigilence	
	Réaction physiologique aux indices de rappel	5. Détachement d'autrui et sentiment d'étrangeté	5. Réaction de sursaut exagérée	
		6. Restriction d'affects		
		7. Sentiment d'avenir « bouché »		

² Les symptômes spécifiques aux enfants sont écrits en caractère gras et italique.

³ Les chiffres entre parenthèse indiquent le nombre des symptômes par critère requis pour le diagnostic du TSPT chez les enfants et adolescents.

De la tendance des adultes à oublier certains aspects de leurs expériences traumatiques, les enfants se souviennent des aspects importants de la scène traumatique (Terr, 1983). Par ailleurs, ils tendent à revivre leur trauma au travers de reconstitutions (reenactments) de certains aspects significatifs de l'événement, en reparlant de l'événement, et dans des jeux inspirés par le trauma (post-traumatic play). D'autres symptômes observés sont la culpabilité, l'anxiété ou des peurs généralisées, la baisse de l'estime de soi, les mauvais pressentiments ou un sentiment de menace continue, la dépression, l'anxiété de séparation, les comportements autodestructeurs, les attaques de panique, les difficultés alimentaires, le somnambulisme, des comportements agressifs ou anti-sociaux, la baisse de la performance à l'école (Fletcher, 1996).

Il existe un débat au niveau de la littérature récente relative à l'importance des symptômes du TSPT chez des enfants et des adultes qui ont vécu un même événement traumatique. Dans l'ensemble, il est apparu que les enfants présentent la majorité des symptômes retrouvés chez l'adulte. Dans sa méta-analyse, Fletcher (1996) indique l'incidence des symptômes spécifiques du TSPT qui sont comparables chez les enfants et les adultes. Ces résultats font état de souvenirs intrusifs (34 % et 45 % pour les enfants et les adultes, respectivement), de cauchemars (31 % et 36 %), d'un sentiment de revivre l'événement (39 % et 29 %), de détresse manifeste aux indices de rappel (51 % et 26 %), d'évitement des indices de rappel (32 % et 33 %), de manque ou de diminution d'intérêt dans les activités (36 % et 28 %), de difficultés de concentration (41 % et 41 %), d'hypervigilance (25 % et 27 %), de réactions de sursaut exagérées (28 % et 38 %). Les résultats de Fletcher rapportent d'autres symptômes chez les enfants traumatisés : les réactions dissociatives (48 %), faible estime de soi (34 %), la dépression (25 %), l'anxiété de séparation (23 %), et l'anxiété généralisée (39 %).

La comparaison entre les réactions des enfants et des adultes ne doit pas être interprétée comme une preuve que les adultes et les enfants réagissent de la même façon dans des conditions identiques, particulièrement pour les jeunes enfants. Il est probable que les manifestations du TSPT varient selon les différentes phases de développement de l'enfant, et de toute évidence en conformité avec les différents changements (rapides et inégaux) qui se produisent dans sa vie (Mash & Terdal, 1997). Pourtant, les études qui analysent l'incidence des symptômes du TSPT à travers les différentes phases de développement sont quasi absentes (Salmon & Bryant, 2002).

2. Diagnostic du TSPT chez les enfants et adolescents

Le diagnostic du TSPT chez les enfants s'est développé à partir d'études de groupes à risque ; à savoir d'une part les enfants victimes d'inondations (Earls, Smith, Reich, & Jung, 1988 ; Green et al., 1991), de feux (McFarlane, 1987), de tornades (Bloch, Silber, & Perry, 1956), et d'autre part les enfants victimes de guerres (Saigh, 1985), de conflits inter-parentaux et de la violence domestique (Emery, 1982 ; Wolfe, Zak & Wilson, 1986), de l'enlèvement (Terr (1979, 1983, 1991) et de fusillades à l'école (Pynoos et al., 1987 ; Schwarz & Kowalski, 1991). De telles études ont permis une amélioration dans la démarche méthodologique et dans l'élaboration d'outils diagnostiques adaptés à la population des enfants et des adolescents et différentes expériences traumatiques. Pourtant, nous devons noter que les résultats de ces études sont très variables au vu même de la différence fondamentale qui existe entre les situations auxquelles les enfants et adolescents sont souvent exposés. Par exemple, le TSPT sera donc plus grand dans les situations où la violence est délibérée par une tierce personne (la violence domestique, les guerres), à la différence des désastres (tornades, feux de brousse) et des accidents (accidents de route, naufrages).

2.1 Approche méthodologique

Initialement, les études qui se sont intéressées au TSPT chez les enfants et les adolescents se sont davantage référées aux rapports des parents et des enseignants qu'aux enfants directement concernés. Or, des études ont révélé que les adultes seraient plus préoccupés par leurs propres difficultés et nient ou refusent d'accepter et de reconnaître l'importance des problèmes psychologiques rencontrés ou vécus par les enfants (McFarlane, Policansky, & Irwin, 1987; Yule & Williams, 1990). De plus, les enfants peuvent refuser de peiner leurs parents en rapportant leur vécu douloureux. Il se peut donc que les résultats issus de ces recherches aient été biaisés par cette attitude des parents et des enfants. Les données recueillies par les enseignants sont également biaisées : ceux-ci ne sont pas des professionnels du domaine et certains comportements se manifestent plus en famille qu'à l'école. Progressivement, les chercheurs ont compris que les questionnaires et les rapports collectés auprès de ces adultes ne suffisaient pas pour conclure à la présence et à la sévérité du TSPT. Ainsi, l'évaluation du TSPT doit combiner l'entretien clinique fait directement avec l'enfant ou l'adolescent et les questionnaires remplis par les enfants ou les adolescents eux-mêmes, en plus de ceux issus des adultes (parents et enseignants).

2.2. Différents outils

Actuellement, il existe des questionnaires auto-administrés pour évaluer le TSPT et qui ont fait preuve d'efficacité et de validité. Pourtant, ces questionnaires élaborés à partir des critères établis par les manuels DSM-III (APA, 1980), DSM-III-R (APA, 1987) et DSM-IV (APA, 1994) méritent une adaptation continue dans le cas des enfants et des adolescents. Cet impératif d'adaptation relève de l'âge, des différences socioculturelles et de la nature de l'événement. Plus encore, les critères établis par le DSM exigent du sujet la capacité de reconnaître (introspection) et d'exprimer correctement les symptômes comme l'intrusion ou

l'évitement de certains souvenirs ou sentiments. Les enfants et les adolescents ne sont pas toujours capables de décrire leurs expériences traumatiques et de préciser les comportements symptomatiques du TSPT. Par exemple, les difficultés d'endormissement (somnambulisme et cauchemars) ou l'énurésie sont autant de difficultés qu'on peut rencontrer souvent chez des jeunes enfants. Ces troubles peuvent déjà conduire à l'échec scolaire car ils affectent l'attention et la concentration de l'enfant. Le diagnostic du TSPT chez les enfants et les adolescents est également difficile du fait qu'il doit tenir compte des aspects « normaux » et passagers de symptômes apparaissant lors des différentes phases de développement.

Il n'existe pas un seul instrument qui servirait à lui seul d'étalon (gold standard) pour diagnostiquer ou contrôler l'évolution de ces symptômes du TSPT chez l'enfant (AACAP, 1998). Les chercheurs conviennent de certaines modalités pratiques susceptibles de minimiser les biais d'erreurs dans l'évaluation du TSPT chez l'enfant. Il s'agit, d'une part, de l'association de l'entretien à l'utilisation des différents questionnaires et, d'autre part, de l'implication de l'enfant et l'adolescent à toutes les étapes de l'évaluation. Pynoos et Eth (1986) recommandent l'entretien direct avec l'enfant car il permet d'évaluer convenablement les symptômes.

Certains outils ont déjà fait preuve de consistance et de validité pour tous les âges de l'enfant et de l'adolescent (0-18 ans). Néanmoins, le manque de compromis si oui ou non, et comment, les symptômes du TSPT se manifestent chez les enfants de tous les âges pose un problème réel. De même, les outils existants présentent des limites quant à leur utilisation pour des enfants de l'âge préscolaire (Yule & Udwin, 1991). Pourtant, quelques outils s'avèrent très utilisés, ne serait-ce que pour une évaluation préalable à toute intervention. Nous retenons l'échelle du TSPT pour les enfants (Children's PTSD Inventory) de Saigh (1988, 1989), l'échelle de l'Impact des Événements (Children's Impact of Traumatic Events Scale : IES) de Wolfe, Gentile, & Wolfe (1989) et le Children's Impact of Events Scale-

Revised (Wolfe, Sas, & Wekerle, 1994), l'échelle de Dépression de Birleson (Birleson Depression Inventory BDI : "Depression self-rating Scale for Children"). La plupart de ces questionnaires sont plus disponibles dans leur version anglaise et nécessitent une traduction et une validation françaises. Actuellement, certains outils ont été traduits en français, mais restent cependant non validés (Sydor, 1995, 1996).

3. Epidémiologie

Les évaluations du trouble de stress-post-traumatique auprès des adultes, dans la population générale, estiment que la prévalence à vie (lifetime) du TSPT varie de 1 à 9,2 % (voir Fairbank, Schlenger, Saigh & Davidson, 1995) pour une recension des études épidémiologiques sur le TSPT) ou de 1% à 14% (AACAP, 1998). Par ailleurs, la prévalence du TSPT chez les enfants et les adolescents dans la population générale est très peu connue. Il n'existe pas jusqu'à présent d'investigations épidémiologiques sur la prévalence du TSPT chez les enfants et les adolescents (Yule, Perrin et Smith, 1999). Néanmoins, il existe des données de recherches issues de groupes à risque. Bien que des tels résultats soient sujets à caution, ils permettent néanmoins de constater l'importance et la sévérité du trouble dans cette catégorie d'âge.

3.1. Prévalence

Les études sur la prévalence du TSPT chez les enfants et adolescents ont porté sur des événements traumatiques singuliers comme les désastres naturels, les accidents, les abus sexuels. En plus de cette attention portée à ces groupes à risque, il est indéniable qu'une évaluation du trouble dans la population générale des enfants et adolescents s'avère nécessaire suite à des événements traumatiques complexes comme les guerres, les violences humaines

(épurations ethniques, génocides). Il serait possible dès lors d'estimer le risque de développement et de maintien du TSPT à travers les différentes tranches d'âge.

Les résultats issus de ces études sont révélateurs des taux de prévalence très variables de 3% (Garrison et al. 1995) à 100% (Frederick, 1985). Une telle variation statistique dépend des méthodes utilisées, de la taille de l'échantillon, du temps écoulé et du type d'événement traumatique. À la suite des études faites auprès des enfants et adolescents victimes d'enlèvement, Terr (1979) estime à 100% le taux de prévalence. L'importance de ce taux élevé est justifiée par le caractère humain de l'événement et l'intensité de l'horreur pour les enfants. Pynoos et al (1987), six mois après une attaque d'embuscade d'une école (snipper attack), estiment à 67 % la prévalence du trouble auprès de 159 enfants et adolescents qui étaient dans la cour de récréation au moment de l'attaque. Ces résultats révélaient la proximité et la présence dans la cour au moment des tirs comme facteur médiateur de la sévérité des réactions post-traumatiques. Dans leur évaluation de 64 pre-adolescents, six mois après l'attaque à l'arme à feu de leur école, Schwarz et Kowalski (1991) ont abouti à des résultats très controversés. Ceux-ci varient selon la classification diagnostique utilisée par les auteurs, soit 16 % (DSM III, 1980), 8 % (DSM III-R, 1989), 9 % (DSM IV, 1994). Par contre, en incluant les symptômes rapportés comme peu intenses, les auteurs constatent une variation de la prévalence : 91 % selon les critères du DSM-III, 50 % selon le DSM-III et 26% selon le DSM IV.

Les études épidémiologiques de certains groupes à risque confirment l'hypothèse selon laquelle les guerres, les violences humaines sont significatives dans le développement du TSPT (Jolly, 2003). Servan-Schreiber, Le Lin, & Birmaher, 1998), dans une étude sur 61 enfants réfugiés en Inde (enfants tibétains), signale un taux de prévalence du TSPT chez 11,5

% d'entre eux. La prévalence des symptômes est significativement plus importante parmi les enfants arrivés en Inde depuis moins d'un an et demi : 25 % *versus* 6,7 %. Ces taux se rapprochent de ceux observés par Sack, Clarke, & Seeley (1997) auprès d'enfants Khmers soumis aux régimes de terreur des communistes maoïstes durant leur enfance ou petite enfance. Des adolescents Khmers installés aux Etats-Unis depuis 6 à 10 ans sont encore 21,5 % à présenter un TSPT. Au cours de la guerre du Golfe (en 1991), bien que non belligérant, l'état d'Israël a fait l'objet d'attaques irakiennes. Dans leur étude sur 326 enfants israéliens, Schwarzwald, Weisenberg, Solomon, & Waysman (1994) constataient que les symptômes du TSPT persistent chez 12 % d'entre eux un an après les hostilités. Par ailleurs, ceux dont la maison a été bombardée présentaient une prévalence significativement plus élevée : 23,8 % *versus* 9,1 %.

En plus de ces situations de guerre, la littérature rapporte certaines évaluations faites dans des groupes victimes des situations de génocide et d'épuration ethnique. Les années 1980 ont été marquées par le génocide des kurdes d'Irak visant leur éradication du nord du pays (Jolly, 2003). Cinq ans après, l'étude de 45 familles ayant survécu à cette opération rend compte d'une prévalence du TSPT de 87 % chez les enfants et de 60 % chez leurs parents (Ahmad, Sofi, Sundelin-Wahlsten, & von Knorring, 2000). Conformément aux résultats de cette étude, une prévalence importante a été observée chez les enfants les plus âgés, ils présentaient plus de troubles psychotraumatiques. Selon les auteurs de ces résultats, la sévérité du PTSD est directement corrélée avec les risques encourus, la brièveté de la période de l'adolescence au vu de la rapidité avec laquelle ils sont projetés prématurément dans la vie d'adulte. De plus, et comme le reprend Joly (2003), si le plus difficile qu'aient eu à subir les adultes relève des violences directes, pour les enfants, le pire réside dans la violence qu'a eu à subir une personne significative. De ce fait, le développement du TSPT chez les enfants

dépend davantage de ce traumatisme individuel que d'un effet de contagion des symptômes parentaux (Ahmad et al., 2000).

Parmi des enfants iraniens âgés de 4 à 8 ans, réfugiés en Suède depuis un an, 21,4 % souffrent d'un TSPT, tandis que 30,9 % présentent un TSPT incomplet (Almqvist & Brandell-Forsberg, 1997). La prévalence du TSPT est fortement liée à la gravité de l'exposition : 37,5 % chez les enfants sévèrement exposés contre 11,5 % chez les enfants faiblement exposés. L'étude de suivi témoigne de la stabilité de l'affection : deux ans et demi plus tard la prévalence du TSPT est de 23 % (Almqvist et al., 1997).

En 1994, alors que les conflits qui opposent musulmans, croates et serbes ont cours, une étude sur des enfants bosniaques déplacés, âgés de 6 à 12 ans, signale un taux de TSPT de 93,8 %. Des troubles associés sont observés : tristesse (90,6 %), anxiété (95,5 %), sentiment de culpabilité (66,6 %) et anorexie (59,7 %) (Goldstein, Wampler, & Wise, 1997). La majorité de ces enfants étaient confrontés à la séparation de la famille, au deuil, au contact direct avec la guerre et le combat, et à une extrême privation (nourriture, soins, abri). Selon cette étude, les niveaux les plus élevés des symptômes ont été observés chez les enfants qui ont été témoins de la mort, de la blessure ou de la torture d'un membre de la famille nucléaire.

Le Tableau 2 synthétise les résultats des recherches présentées ci-dessus. Ces données statistiques renseignent sur l'importance du TSPT chez les enfants et les adolescents. Les taux de prévalence varient selon le risque d'exposition (victime directe) et l'importance de l'événement sur la vie de l'enfant (multiplicité des stress). Également, le TSPT s'avère plus ou moins important selon qu'il implique un deuil important, par exemple des enfants qui perdent ou qui sont séparés de leurs parents et proches au cours des événements comme la guerre et le génocide (Goldstein et al., 1997).

Table 2

Tableau synthétique de certaines études

Etudes	N	Population	Age (Années)	Type de trauma	Temps écoulé	Critères diagnostiques	Prévalence PTSD (%)
Almad et al. (2000)	45 familles	Kurdes d'Iraq.	Enfants et adolescents	Epuration ethnique	5 ans	PTSS-C et Havard Trauma Questionnaire	87 %
Almqvist	42	Iraniens	4-8 ans	Guerre	2 ½ ans	DSM III	23 %
Goldstein et al. (1997)	364	Bosniaques	6-13 ans	Conflits	—	DSM IV	93,8%
Pynoos et al. (1987)	159	USA	Enfants et adolescents	Snipper attack	—	DSM III	67%
Sack et al., (1997)		Khmers	Enfants et adolescents	Terreur maoïste	6-10 ans	DSM IV	21,5%
Schwarz et Kowalski (1991)	64	USA	Pre-adolescents	Embuscade à l'école	—	DSM III, DSM III- R, DSM IV	91% 50% 26%
Schwarzwald et al. (1994)	326	Israéliens	Enfants	Bombardement	—	DSM III , DSM III-R	23,8%
Servan-Schreiber et al. (1998)	61	Tibétains	Adolescents	Réfugiés de la guerre	—	DSM IV	11,5%

Enfin, ces résultats montrent que les symptômes du Trouble de stress post-traumatique chez les enfants durent longtemps c'est-à-dire que le temps et la maturation n'enrayent pas les symptômes du trouble. Ces données stimulent le besoin de continuer les recherches et d'évaluer l'importance du trouble dans d'autres populations comme les enfants et les adolescents survivant du génocide rwandais, les enfants victimes des conflits irakiens, afghans et israélo-palestiniens.

3.2. Evolution et pronostic

Comme le montrent les données cliniques et épidémiologiques précédentes, le TSPT peut se maintenir très longtemps chez l'enfant comme chez l'adulte. Cependant, ces données ne permettent pas de pronostiquer pour tous les cas d'exposition à un événement potentiellement traumatique une issue pathologique, soit un Trouble post-traumatique. L'enfant peut toujours se remettre des séquelles d'une expérience traumatique du fait de sa maturation et de l'interaction des différents facteurs de résilience (voir le modèle étiologique de Pynoos et al. 1995, 1999).

Néanmoins, il existe une probabilité que certains cas s'engagent dans un processus de détérioration profonde de la personnalité et des relations sociales (Pynoos, 1993). De ce fait, le développement du TSPT dans l'enfance affecte et conditionne la perception de la réalité comme menaçante pour l'avenir, ce qui peut s'extérioriser par des pensées (cognitions), des comportements et des émotions qui entachent à leur tour le développement de l'enfant. Comme cela a été observé dans des groupes d'adultes, par leur nature et le degré de leur impact, les expériences traumatiques modifient la perception du monde et l'intégrité psychologique. Ces perceptions jouent un rôle important dans l'élaboration et l'intégration de

la représentation du monde (Janoff-Bulman, 1992) et donnent forme aux perceptions du "soi" (self) et de l'autre (l'altérité).

Dans son étude auprès des adolescents réfugiés cambodgiens qui avaient émigrés en Amérique, Kinzie et al. (1986) ont remarqué l'importance des symptômes intrusifs et d'évitement (50% de l'échantillon souffrait du TSPT), mais aussi de dépression majeure. Une dépression prolongée a été plus fréquemment observée chez les adolescents et les jeunes adultes qui avaient été exposés à un traumatisme massif (stress multiples) et répété. De plus, des études rétrospectives chez des adultes qui ont été victimes d'abus sexuels dans leur enfance indiquent que les symptômes peuvent bien persister à l'âge adulte (Beitchman et al., 1992 ; Cahill, Llewelyn, & Pearson, 1991). La littérature actuelle sur le TSPT mentionne la sévérité des traumatismes liés à des violences sexuelles, des abus sexuels provenant de personnes connues, et de parents en particulier. De même, une sévérité des symptômes est observée dans des situations de génocide et d'épuration ethnique (voir Tableau 2). Il y a lieu de noter qu'en plus de l'horreur et de la tragédie de l'expérience, la victime se trouve blessée dans tout son être (identité, intimité). Et pour l'enfant, l'adulte cesse d'être une protection car c'est de lui qu'est venu le mal. Cette situation est d'autant plus grave s'il s'agit des parents car la connotation affective est beaucoup plus forte que dans les situations de désastres naturels ou d'accidents. Dans pareils cas, les symptômes s'avèrent plus sévères et durables car les stress sont multiples, répétés et abusifs (le caractère intentionnel de l'événement exacerbant la perception de la menace comme étant toujours possible à tout moment) (Elizur & Kaffman, 1982 ; Kinzie, Sack, Angel, Manson, & Rath, 1986 ; Kinzie, Sack, Angel, Clarke, & Ben, 1989 ; Mannarino, Cohen, Smith, & Moore-Motily, 1991 ; Stuber, Nader, Yasuda, Pynoos, Cohen, 1991).

Les conséquences d'un traumatisme dans le jeune âge peuvent être alors dévastatrices et de longue durée, non seulement pour les enfants traumatisés mais aussi pour toute la société. Green (1985) estimait que "l'échec dans la maîtrise des traumatismes dans l'enfance crée un besoin continu et permanent de répéter et de réagir à ceux-ci qui deviennent plus importants à l'âge adulte" (p.146).

D'autres études du domaine confirment cette affirmation (Pynoos & Eth, 1986) en estimant que l'expérience du traumatisme dans l'enfance est directement liée à l'abus ultérieur de drogue, à la délinquance juvénile, et aux comportements criminels (Burgess, Harthman, & McCormack, 1987). Les enfants abusés peuvent, plus que les non-abusés, devenir par la suite des parents abuseurs (Frederick, 1985 ; Green, 1985).

Enfin, la psychopathologie clinique de l'adulte fait état de la comorbidité du traumatisme de l'enfance dans le développement des troubles psychiatriques. Le traumatisme dans l'enfance apparaît impliqué dans la cristallisation de certaines difficultés psychiatriques à l'âge adulte en général, comme, par exemple, les troubles anxieux et dépressifs.

En définitive, les évidences empiriques et cliniques précédentes renseignent sur plusieurs aspects de l'évolution et du pronostic du TSPT. D'abord le trouble peut durer des années, ensuite les stress multiples pronostiquent un trouble sévère, enfin les enfants peuvent se remettre du traumatisme au vu de la décroissance des taux d'incidence des symptômes à travers le temps. Le pronostic de la sévérité du TSPT chez l'enfant et l'adolescent prend en compte la nature de l'événement traumatique et la situation (le changement) socio-économique après l'expérience : les structures sociales, l'organisation de la communauté, le

fonctionnement de la famille. Ces principes sont pris en compte dans le modèle étiologique de Pynoos (1999) qui est développé par la suite.

4. Étiologie du TSPT chez l'enfant et l'adolescent

Le TSPT a cette particularité qu'il suppose, à la différence des autres entités pathologiques, un facteur étiologique précis à partir duquel le trouble est diagnostiqué, c'est-à-dire être victime directe ou témoin d'un événement traumatique et pour lequel la réaction a été intense (critère A du DSM IV, APA 1994). Il existe aujourd'hui différents modèles étiologiques qui tentent de comprendre les différents facteurs et processus impliqués dans le développement du TSPT. Néanmoins, il faut reconnaître qu'il y en a très peu spécifiquement dans le domaine de l'enfant et de l'adolescent, ce qui peut se justifier par l'intérêt de recherche très récent pour ce groupe d'âge.

4.1. Modèle étiologique

Il existe des modèles variés qui tentent d'appréhender le développement étiologique du TSPT, notamment ceux issus des études faites auprès des adultes traumatisés (pour un recensement des modèles adultes, voir articles de Brillon et al, 1996 ; Horowitz, 1986 ; Ehlers & Clark, 2000). Ces modèles, quoique présentant des limites dans l'explication de tous les symptômes et l'absence des données empiriques de vérification de ces modèles (Brillon et al., 1996), permettent néanmoins d'identifier certaines variables qui interagissent dans le développement du TSPT. Tous ces modèles mentionnent (1) les caractéristiques de l'événement (qualités imprévisibles et incontrôlables, intensité, potentiel de menace à la vie), (2) les caractéristiques pré-trauma de l'individu (structure de personnalité, bagage génétique, vulnérabilité psychologique, style cognitif, conflits inconscients non résolus, conceptions/croyances fondamentales), (3) la réaction post-trauma de l'individu (perception et

interprétation de l'événement, attribution causale, apprentissage conditionné, mécanismes de défense, mode de gestion de stress) et (4) l'environnement (contexte et support social) (Brillon et al., 1996, p.11).

Dans la population des enfants et des adolescents, les modèles ne sont pas nombreux. Cependant, ceux de Fletcher (1996) et Pynoos et al. (1999) sont d'une richesse importante car ils combinent plusieurs aspects spécifiques aux enfants et adolescents. Ce faisant, ces modèles intègrent, en plus de la capacité cognitive, les aspects de l'environnement social et familial dans le développement du trouble. Nous estimons que le modèle de Pynoos et al. (1999) reprend et améliore celui de Fletcher (1996). Ainsi, nous nous limitons à explorer celui-ci sans toutefois nier la richesse du modèle de Fletcher qui, par sa simplicité, se prête bien aux applications cliniques.

Le modèle de Pynoos et al. (1999) présente l'étiologie du TSPT comme une matrice imbriquée de plusieurs facteurs directs et indirects du trauma (*voir Figure 1*). Les réactions de la famille, l'état de santé mentale et physique des parents, l'exposition à d'autres traumas et pertes importantes s'avèrent être des facteurs de risque ou de protection pour le développement du trouble. Les changements dans la vie de l'enfant (vie familiale, sociale), les ruptures dans la constellation familiale, l'interaction du trauma et de la perte, l'urgence d'assumer des nouvelles responsabilités, etc. sont autant de stress secondaires qui sont déterminants dans le développement du trouble chez l'enfant. Comme cela est mentionné dans les études citées précédemment, les enfants dont la maison familiale a été détruite, les parents mutilés et/ou tués, ou dont la situation socio-économique de la famille s'est vite effondrée, rapportent des taux élevés de prévalence du TSPT (Pynoos et al, 1999, Sack et al., 1995). Ces facteurs sont médiateurs et modérateurs du trouble.

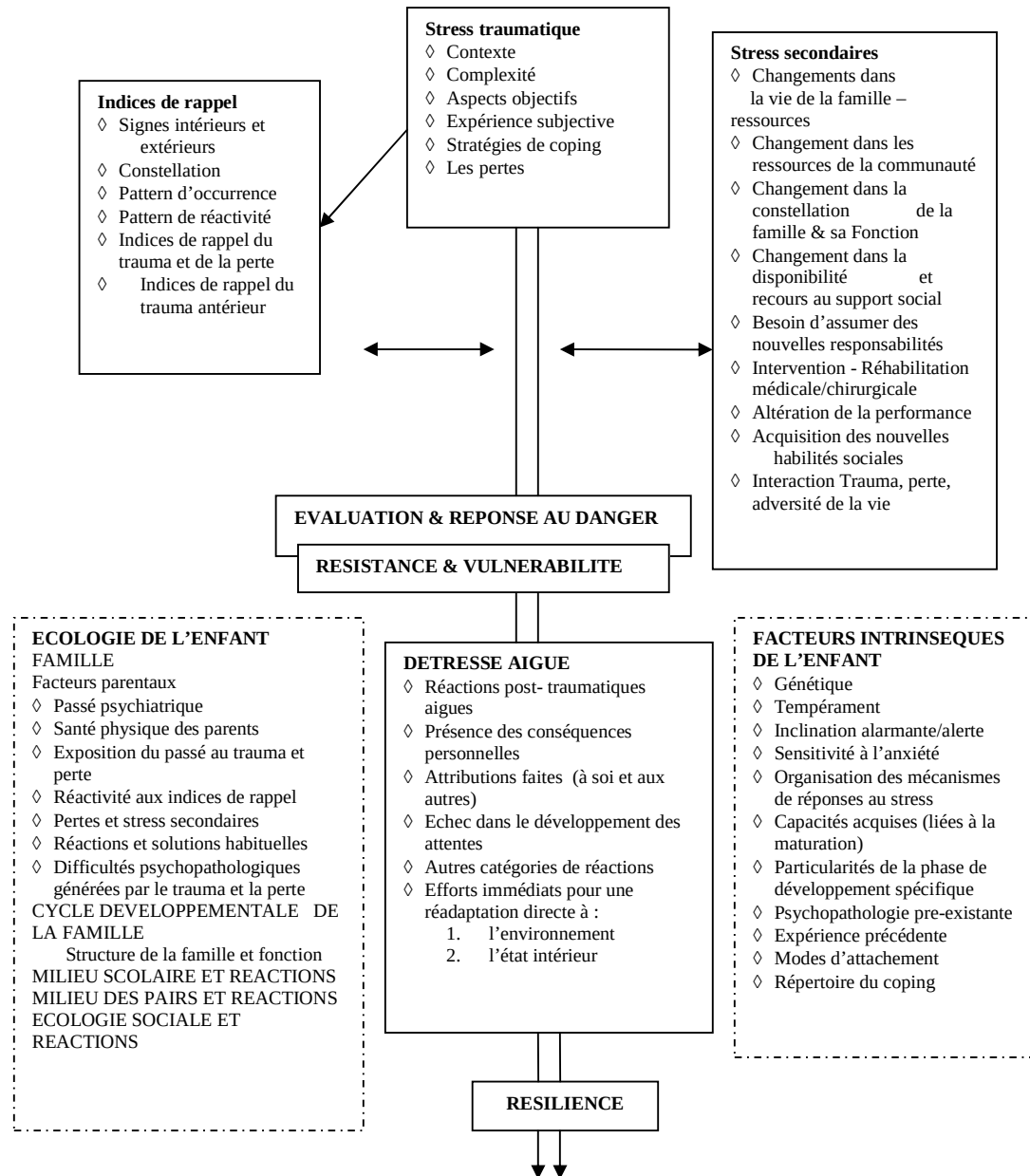


Figure1 Modèle de développement du Stress post-traumatique dans l'enfance selon Psynoos et al.(1999)

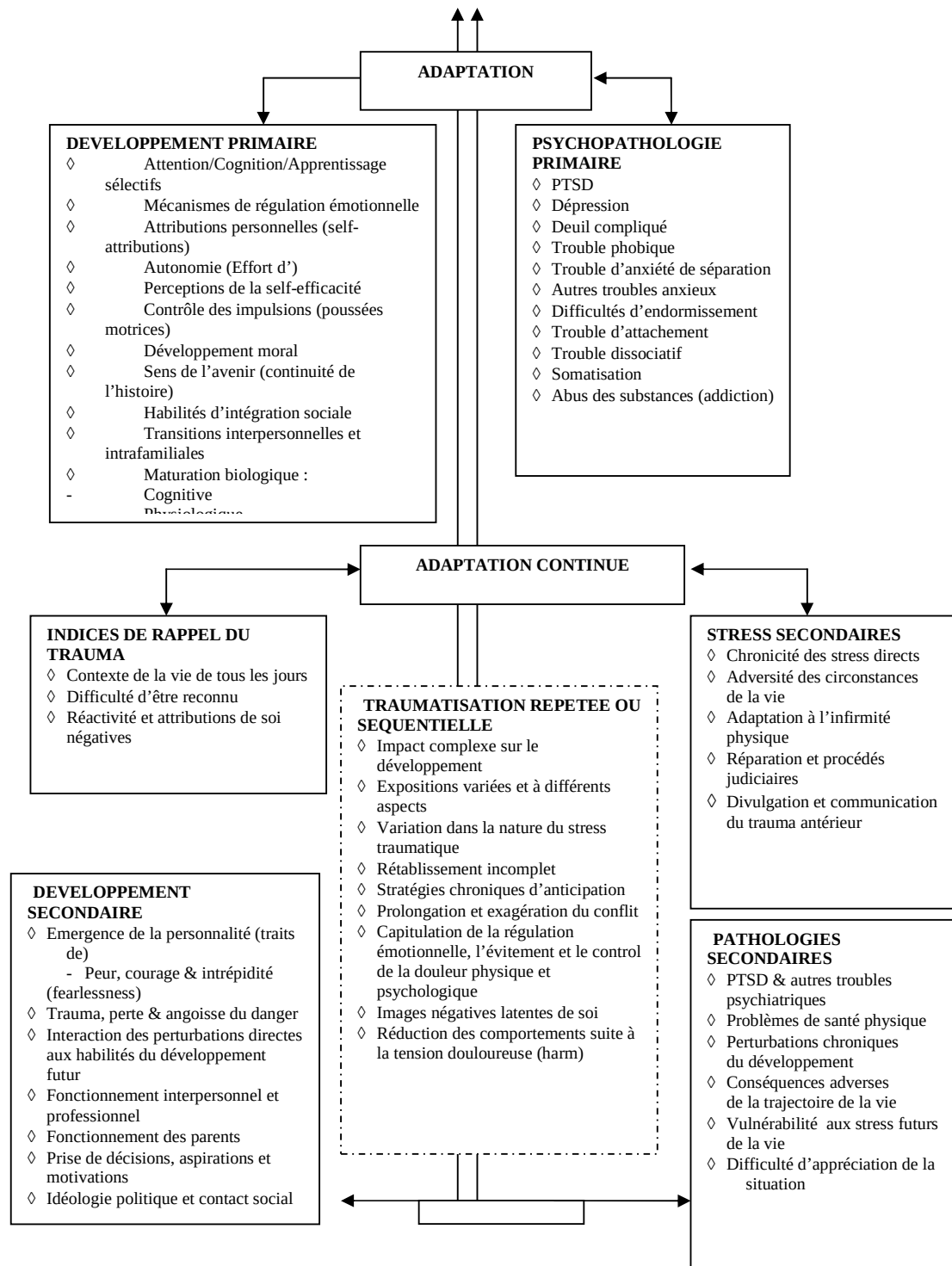


Figure 1 (suite)

Par ailleurs, la richesse de ce modèle réside dans l'importance accordée à la capacité que peut présenter l'enfant de sortir des conséquences de l'événement traumatique. Par la maturation, l'enfant acquiert certaines habiletés et compétences pour surmonter différentes difficultés consécutives au trauma. Entre autres développements, l'auteur souligne le développement cognitif, (attention, cognition/apprentissage sélectifs, le sentiment d'auto-efficacité, l'effort d'autonomie, le sens de l'avenir/continuité de l'histoire), la mise en place des mécanismes de régulation émotionnelle, le développement moral, les habiletés d'intégration sociales, les interactions interpersonnelles et intrafamiliales.

La notion de détresse déclenchée par un événement traumatique est centrale dans le modèle de Pynoos et al. (1995, 1999). La détresse caractérise toutes les manifestations biologiques, psychologiques et comportementales et qui constitue les réactions de stress post-traumatique. La reviviscence de l'événement, à travers des images, des pensées, des souvenirs, des odeurs, des bruits, des couleurs, etc., provoque une sensation d'alerte du danger et qui par la suite génère des perturbations physiologiques. Cette situation angoisse l'enfant qui peut s'engager dans un processus de coping d'évitement et d'émoussement pour atténuer sa détresse, et éviter de faire souffrir davantage les parents. On peut par ailleurs observer chez l'enfant des peurs inhabituelles, l'agressivité, des comportements régressifs (par ex. l'énurésie) qui témoignent d'une souffrance diffuse. Comme cela va être décrit par la suite, avec la maturation, l'enfant devient progressivement capable de reconnaître et d'exprimer son angoisse.

La notion de résilience occupe également une place importante dans ce modèle. La résilience renvoie à la capacité dynamique présentée par l'enfant de réagir à la détresse et de fournir des efforts adaptatifs au trauma (Pynoos et al., 1999). Cette capacité est la résultante de différents facteurs intrinsèques (santé mentale et physique, tempérament) et extrinsèques

(liens et interactions familiales). Les facteurs étiologiques évoqués dans ce modèle font l'objet du point suivant. Certains s'avèrent être des facteurs de vulnérabilité tandis que d'autres constituent des facteurs de protection et de résilience.

Enfin, ce modèle présente un intérêt clinique essentiel. Lors de l'évaluation d'un enfant traumatisé, ce modèle permet de passer en revue toute une série d'aspects non pris en compte dans les instruments diagnostiques, mais néanmoins importants pour estimer l'adaptation de l'enfant. Ce modèle peut servir de base pour l'entretien semi-structuré avec l'enfant et sa famille. Par ailleurs, le fait que ce modèle prenne en compte non seulement les facteurs de risque mais aussi les ressources et facteurs de résilience de l'enfant et sa famille en font un modèle très pertinent pour envisager une intervention auprès de l'enfant et sa famille.

4.2. Facteurs étiologiques

La Figure 1 indique qu'il existe de multiples facteurs étiologiques du Trouble de stress post-traumatique et qui peuvent être classés en trois catégories. D'abord, les aspects objectifs de l'expérience traumatique, y compris les adversités directes, et des indices de rappel liés au trauma et aux pertes subies. Ensuite, les aspects subjectifs dont l'évaluation de la menace et les réactions face à la menace que comporte l'événement pour la victime et pour ses proches. Enfin, le modèle porte une attention particulière à la complexité des conséquences de l'événement. Un tel contexte post-trauma est souvent traumatique car il génère des sources nouvelles d'anxiété et d'angoisse : changements dans la vie de l'enfant et dans le fonctionnement de la famille et de la communauté.

4.2.1. *L'événement traumatique*

La vulnérabilité au trouble de stress post-traumatique est accrue par la sévérité de l'exposition (Lonigan, Shannon, Taylor, Finch, & Sallee, 1994 ; Nader, Pynoos, Fairbanks, & Frederick, 1990; Pynoos et al., 1987) et cette dernière inclut des traits objectifs et subjectifs de l'événement traumatique (critère A du DSM IV, APA 1994).

4.2.1.1. La sévérité de l'événement

La sévérité de l'événement tient compte de son intensité et de son importance dans la vie de la victime d'une part, et d'autre part, de ses conséquences socio-économiques directes. Parallèlement au progrès de l'étude du stress chez l'adulte, des études auprès des enfants et adolescents ont révélé qu'il existe des caractéristiques spécifiques à l'expérience traumatique qui renforcent le développement et le maintien du stress post-traumatique, ainsi que d'autres réactions. Les études de Pynoos et al.(1993) et Yule et Williams (1990) indiquent que la menace directe de la vie, les blessures, le décès d'un grand nombre de personnes, les hurlements et les cris de détresse sans secours, etc., constituent des aspects fortement associés au développement et au maintien du TSPT chez les enfants et les adolescents.

La littérature relative à la violence humaine met en exergue d'autres caractéristiques objectives de risque au TSPT. C'est surtout la proximité physique, le fait d'être la cible directe de la menace, l'imprévisibilité et la durée de l'événement, l'importance de la force utilisée et l'usage des armes à feu et armes blanches, l'importance et la nature des menaces (physique et psychologique), le fait d'être témoin direct des atrocités, la relation avec l'assaillant et les autres victimes, l'usage des contraintes physiques (privation de la nourriture, de l'eau, ...), la violation de l'intégrité physique, le degré de la brutalité et de la malveillance (Pynoos, Sorenson, & Steinberg, 1993).

L'autre facteur significatif dans le développement du TSPT, en plus de l'événement traumatique en soi, est la séparation des enfants de leurs parents dans l'après-coup du désastre. Les recherches prouvent qu'en plus de la sévérité de l'événement traumatique, la séparation des enfants ou l'absence du lien familial affectent davantage ces derniers et les exposent en conséquence à un stress post-traumatique plus sévère et continu.

Dans des situations de guerre et de violence humaine, à l'horreur de l'événement s'ajoute la détresse de la séparation et de perte. Ainsi, l'interaction entre le stress post-traumatique et les réactions de deuil constitue une autre dimension de détresse aiguë pour l'enfant et l'adolescent (Pynoos, 1992). Les circonstances de la mort d'un membre de famille, même dans des situations dites de mort normale, peuvent prolonger, interférer sensiblement avec le processus de rétablissement et maintenir l'enfant dans un deuil continu (Clark et al., 1994). Dans pareils cas, les circonstances traumatiques de la mort des parents, dont l'enfant aurait été témoin, compliquent davantage le processus de deuil et sont susceptibles de prolonger les préoccupations de l'enfant.

4.2.1.2. La complexité des expériences traumatiques chez les enfants et les adolescents

L'expérience traumatique chez l'enfant et l'adolescent est d'une complexité plus importante que chez l'adulte. Cette complexité tient au fait que l'expérience traumatique intervient au moment où le jeune est en plein développement, tant au niveau physique, psychologique que social. Dans certaines situations, l'événement traumatique met en péril tout un éventail d'éléments dont le jeune être a besoin pour son processus de maturation. Pensons aux situations extrêmes qui affectent les structures psychiques (cognitions, émotions) et psychosociales de l'enfant.

D'autres séquences de l'expérience traumatique peuvent constituer des moments traumatiques supplémentaires, même après la cessation de la violence ou de la menace. C'est par exemple la présence de blessure ou le fait d'être à proximité du corps d'un membre de la famille décédé, les tentatives faites pour arrêter de saigner ou les tentatives de réanimation, la séparation brusque d'avec les membres de la famille, les parents, l'agonie d'un membre de la famille succédant à de la violence.

Dans leur évaluation de la menace externe, le jeune enfant fait confiance à la société et aux figures d'attachement pour répondre aux situations critiques qui portent atteinte à sa sécurité et à son intégrité (Krystal, 1991). La rupture de ces attentes protectrices, la violation coercitive de l'intégrité physique et de l'autonomie psychologique, et la destruction des croyances en la protection par les parents sont directement associées à une peur intense, de la rage ou de la honte, et des comportements psychomoteurs très agités ou, inversement, à une extrême passivité. En situation de guerre et de génocide, l'enfant est à haut risque car il voit ses parents inquiets pour leur propre vie, voir abattus sous ses yeux.

4.2.1.3 Indices de rappel du traumatisme

Après l'événement, il existe un éventail d'indices qui rappellent inlassablement à l'enfant l'événement traumatique. Les images mentales du trauma constituent une source supplémentaire de détresse et d'angoisse continues. La réactivation physiologique et psychologique de ces images conduit à la réactivation périodique et épisodique de l'anxiété traumatique et des comportements d'évitement.

D'autres indices sollicitent le souvenir du traumatisme chez l'enfant. C'est par exemple une blessure physique, une cicatrice ou un handicap consécutif à l'événement traumatique,

ou encore le fait d'être en contact avec l'auteur ou le conspirateur de l'événement. Ces indices de rappel défient intensément l'enfant en réactivant la détresse traumatique initiale et exacerbent toutes les questions d'impunité, d'injustice et du sentiment d'être victime (Pynoos et al., 1991).

À la suite des conflits armés, il est évident que les peuples et les pouvoirs politiques s'adonnent à des projets de mémoire collective de l'événement. À ce titre, les commémorations et les mémoriaux des guerres et génocides sont organisées pour soutenir le travail des mémoires individuelles et signer l'événement dans l'histoire. Pourtant, malgré cet effet positif, les commémorations et les mémoriaux vivifient les séquelles et les réactions du trauma initial.

4.2.1.4. Les stress secondaires

Les changements que provoque un événement traumatique peuvent constituer des stress supplémentaires pour l'enfant après le trauma. Ces stress varient considérablement à la fois avec le type du trauma (choc) et la sensibilité de l'environnement de l'enfant. La mort des parents, et autres membres de famille, en situation de guerre, et les difficultés socio-économiques que vit l'enfant, sont autant de stress qui renforcent la détresse post-traumatique. De cette façon, ces stress accroissent le risque de comorbidité des réactions de stress post-traumatique initiales avec d'autres réactions défavorables et hostiles.

On reconnaît également l'impact des changements qui affectent la structure et les valeurs sociales, l'organisation de la communauté et de l'école, le fonctionnement de la famille. La destruction et la déstructuration de la communauté, la perturbation et l'interruption du lien familial, la malnutrition, les maladies, la diminution de la cohésion sociale,

l'émigration et le rapatriement résultant de la guerre et des désastres de grande envergure sont directement associés à une vie de souffrance et de privation pour l'enfant (Cicchetti, Toth, & Lynch, 1993).

4.2.2. L'évaluation du trauma et de ses séquelles

Le deuxième facteur majeur qui interagit dans le développement du trouble de stress post-traumatique est l'évaluation que la victime fait du trauma et de ses séquelles.

4.2.2.1. Perception du trauma et/ou ses séquelles

Il est admis que, contrairement aux individus qui récupèrent naturellement, les individus avec un TSPT persistant sont incapables de percevoir le trauma comme un événement limité dans le temps et n'ayant pas de conséquences négatives globales pour tous les aspects de leur vie future (Ehlers & Clark, 2000). Ces individus seraient caractérisés par une évaluation négative (idiosyncrasies particulières) de l'événement traumatique et/ ou de ses séquelles, ayant comme effet commun de créer un sens persistant de la menace permanente. L'individu a tendance à généraliser le caractère traumatique de l'événement à bien d'autres activités normales et à considérer celles-ci comme étant dangereuses. Il exagère la probabilité de l'événement. Une telle évaluation de l'événement génère non seulement la peur liée à la situation mais aussi l'évitement qui maintient une peur généralisée.

Les symptômes comme les souvenirs intrusifs et flash-back, l'irritabilité et les variations d'humeur, le trouble de concentration et l'émoussement affectif sont des réactions communes directement après l'événement traumatique. Pourtant, du moment où l'individu ne reconnaît pas ces réactions comme normales pour le processus de rétablissement, il risque de les interpréter comme étant des indications qu'il a changé pour le pire ou des indicateurs d'une

menace au bien-être physique et mental (Ehlers & Steil, 1995 ; Foa & Riggs, 1993; Jones & Barlow, 1990). Une telle interprétation déclenche directement des émotions négatives (ex. anxiété, dépression ou colère) et engage l'individu dans des stratégies de coping dysfonctionnelles avec un effet paradoxal de renforcement du TSPT. Par exemple, les personnes qui pensent que les souvenirs intrusifs sont significatifs de la perte de contrôle de leur conscience essaient sans relâche de repousser ces souvenirs loin de leur conscience. Malheureusement, les tentatives de suppression de ces souvenirs les rendent très actifs.

De plus, les membres de la famille et les proches sont très incertains quant à la manière appropriée de réagir par rapport à la victime du trauma et peuvent éviter de parler de l'événement pour ne pas la blesser davantage. Pourtant, cette attitude peut être interprétée par la victime comme une preuve que les autres ne se soucient pas d'elle, ou, pire encore, que les autres pensent que c'était de sa faute, ou peut-être que les autres réalisent qu'elle dysfonctionne et par conséquent risquent de s'éloigner d'elle. De telles évaluations sont probablement susceptibles de produire des symptômes de TSPT (aliénation et séparation des autres, retrait social) et peuvent empêcher la victime de partager avec les autres son trauma, une attitude qui réduirait le feedback d'autrui qui diminue particulièrement les perceptions négatives du sens donné à l'événement.

Enfin, la nature des réactions émotionnelles du TSPT dépend largement des évaluations particulières de l'expérience traumatique (Beck, 1976). L'évaluation concernant le danger renvoie à la peur ; la violation des normes et l'injustice conduisent à la colère ; des évaluations de responsabilité dans l'événement traumatique ou dans ses conséquences conduisent à une culpabilité ; des évaluations d'une violation importante de la vie intime conduisent à la honte ; et des évaluations relatives à la perte conduisent à la tristesse.

Ce modèle cognitif serait difficilement applicable aux enfants plus jeunes au vu de leur niveau de développement cognitif. Par contre, les adolescents seraient plus susceptibles de réagir, comme les adultes, à ces sentiments de honte, de colère et de culpabilité par des comportements variés et caractéristiques de la détresse, à savoir l'agressivité, l'irritabilité, l'isolement, le sentiment de solitude, la diminution de l'estime de soi, le sentiment de culpabilité, le désespoir, etc.

4.2.3. *Les facteurs liés à l'environnement familial et social de l'enfant*

Dans le cas d'un traumatisme, les relations entre l'enfant et sa famille influencent la manière dont celui-ci va gérer ce qu'il a vécu. Les réactions des parents suite à l'événement, le fait qu'ils puissent rassurer et soutenir l'enfant, l'ambiance familiale, la vie quotidienne au sein de la famille (côté matériel, financier, etc.), l'histoire de la famille, etc. sont autant de facteurs modérateurs de l'angoisse chez l'enfant. Dans leur étude auprès des enfants et adolescents bosniaques, Daniel et al. (1999) ont trouvé que la façon dont la communauté et la famille réagissent joue généralement un rôle primordial dans le développement du stress post-traumatique chez l'enfant. De cette façon, l'absence ou la séparation d'avec les parents constitue un facteur de risque important pour l'enfant. Dans le cas des violences humaines comme la guerre et le génocide, le risque est plus grand car celles-là privent l'enfant de certains membres de sa famille (parents, frères, amis) et ternissent aussi la perception que l'enfant a de la communauté. Par conséquent, l'enfant a tendance à se replier davantage sur lui-même et se méfie de tout le monde car sa détresse de séparation est désorganisatrice.

Définissant les facteurs de risque, l'AACAP (1998) souligne que les violences faites par l'homme et la sévérité du TSPT chez l'enfant sont positivement corrélées. La menace reste

toujours présente car l’auteur du crime, ou son conspirateur, est toujours capable de commettre son forfait.

4.3. Facteurs médiateurs du TSPT

La résistance et la vulnérabilité renvoient aux facteurs qui sont médiateurs et modérateurs du stress traumatique. Un certain nombre d’auteurs reconnaissent à l’enfant la capacité de « rebondir » et de se rétablir des conséquences de situations difficiles de leur vie. De tels enfants sont dits résilients (Cyrulnik, 2001 ; Hanus, 2001). Dans la suite de leur modélisation, Pynoos et al. (1999) reconnaissent à l’enfant la capacité de se remettre du traumatisme au fur et à mesure qu’il grandit (acquisitions de certaines habiletés liées par exemple au développement cognitif et émotionnel) et qu’il bénéficie des ressources disponibles dans son environnement familial et social. Il s’agit des facteurs modérateurs du stress traumatique. Par ailleurs, certains chercheurs ont souvent apprécié le rôle que jouent certains facteurs dits médiateurs comme l’âge, le sexe, le tempérament et les différences culturelles dans le développement du TSPT. Les résultats de telles études suscitent des controverses importantes.

4.3.1. *Age et sexe*

En général, les enfants sont particulièrement vulnérables car ils se trouvent très souvent impuissants et plus facilement effrayés que les adultes qui ont plus de ressources physiques et de capacités cognitives et de ressources émotionnelles. Les efforts de coping des enfants sont déterminés par les capacités propres à la phase spécifique et actuelle de leur développement. Par exemple, la capacité à réguler l’affect et à obtenir le support extra familial s’accroît avec l’âge. La phase spécifique de développement peut avoir aussi un effet sur la façon dont l’événement traumatique a été compris et intégré (Newman, 1976). Ainsi, des

enfants trop jeunes (en âge préscolaire) ne pourront pas percevoir avec précision que leur vie est menacée dans des situations dangereuses (Green et al., 1991) mais réagiront plutôt aux émotions et réactions de leurs parents. Par contre, les enfants en âge scolaire et les adolescents disposent déjà d'une certaine capacité pour évaluer l'ampleur de la menace et leur capacité pour y faire face.

Le point de vue précédent ne fait pas l'unanimité de tous les chercheurs. Certaines études attribuent la sévérité de la détresse traumatique à l'âge de l'enfant au moment de l'exposition à l'événement traumatique comme médiateur du développement des symptômes du TSPT (Davidson & Smith, 1990 ; Hofman & Bizman, 1996). Pourtant, d'autres trouvent des résultats inconsistants avec cette hypothèse (Garrison et al., 1995 ; Green et al., 1991). Ces auteurs en appellent à des recherches plus approfondies et comparatives pour apprécier le rôle que joue l'âge dans le développement des symptômes du TSPT.

De même, certaines recherches soutiennent l'hypothèse selon laquelle le sexe est médiateur du développement des symptômes du stress post-traumatique. Selon diverses études (Brent et al., 1995 ; Garbarino & Kostelny, 1996 ; Green et al., 1991 ; Shannon et al., 1994 ; Shaw et al., 1996), les filles développeraient plus de symptômes de TSPT sévères et chroniques. Cette position n'est pas partagée par tous les chercheurs (Berman, Kurtiness, Silverman, & Serafini, 1996 ; Nader et al., 1990; Pynoos et al., 1987 ; Sack et al., 1995 ; Shaw et al., 1995) car ils pensent que la différence observée est seulement liée à la facilité d'expression des émotions et des sentiments par les filles.

Cette controverse au niveau de l'âge et du sexe comme facteurs médiateurs du TSPT continue à alimenter l'intérêt de certains chercheurs pour produire des données empiriques

fiables. De toute évidence, quand bien même l'âge et le sexe ne déterminent pas a priori le cours que prend le développement des symptômes de TSPT, nous pensons que ces deux facteurs en orientent l'intensité d'expression et la nature des attributions faites par rapport à la menace que comporte l'événement.

4.3.2. *Types de tempérament*

Il serait précoce de parler de personnalité chez les jeunes enfants, mais le type de tempérament apparaît comme médiateur des symptômes du TSPT. Les tempéraments prédisposés à l'évitement, au déni et au lieu de contrôle (locus of contrôle) externe, à l'opposé de la capacité active à faire face et à intégrer l'expérience, accroissent la vulnérabilité. Dans leurs écrits sur la résilience, Cyrulnik (2001) et Hanus (2001) soulignent l'importance de l'humour et de la stratégie active comme traits susceptibles de favoriser la résilience. Ces affirmations devront être vérifiées empiriquement car elles relèvent plus de l'intuition clinique que d'études extensives.

4.3.3. *Différences culturelles et ethniques*

Différentes études ont évalué le rôle de la différence culturelle et ethnique dans le développement du TSPT et ont trouvé que ces différences peuvent affecter la façon dont le trouble se manifeste (Ahmed & Mohamad, 1996). Par exemple, les enfants d'origine latino-américaine manifestent les symptômes de TSPT en se référant à ceux de la *maladie de susto* qui est plus une typologie culturelle (AACAP, 1998).

5. Implications pour l'intervention

Les études longitudinales faites auprès des enfants et adolescents victimes des guerres et des violences communautaires ont permis de comprendre l'impact de la violence sur le bien-

être psychologique des enfants à court et à long terme. Certains enfants et adolescents ont besoin d'être aidés pour se remettre des symptômes du stress post-traumatique.

5.1. La thérapie cognitivo-comportementale

Les données cliniques issues des interventions auprès des adultes traumatisés révèlent l'efficacité de la thérapie cognitivo-comportementale dans l'amélioration des symptômes du TSPT. Il est évident que l'application d'une telle thérapie aux enfants doit être adaptée à leur capacité cognitive d'élaboration et d'intégration mentale de l'événement traumatique.

L'amélioration des symptômes du TSPT par la thérapie cognitivo-comportementale touche différents domaines car elle (1) favorise l'activation de la mémoire traumatique (accompagnée des émotions, des sensations et pensées) et réintègre les traces de cette mémoire dans la mémoire explicite ; (2) permet l'habituation grâce à l'exposition aux contenus de la mémoire traumatique (par imagerie) ; (3) et garantit l'apprentissage de la discrimination entre les indices de menace et la capacité individuelle à faire face à ces menaces (réintégration des réponses physiques conditionnées dans les souvenirs traumatiques explicites).

Néanmoins, il est probable, qu'en fonction de l'âge de l'enfant, les enfants (a) aient des difficultés pour comprendre la raison de l'exposition ; (b) éprouvent des difficultés à focaliser toute leur attention sur les aspects spécifiques de l'événement pendant un temps prolongé ; (c) et soient plus troublés en focalisant leur attention sur des images traumatiques pendant longtemps au vu de leur capacité à gérer l'anxiété associée. Il est également difficile aux jeunes enfants de contrôler les processus cognitifs activés lors de la thérapie et il faut alors utiliser des stratégies moins cognitives pour modifier les croyances (Salmon & Bryant,

2002). March, Amaya-Jackson, Murray et Schulter (1996) mentionnent que la thérapie cognitivo-comportementale fait preuve d'un impact positif sur les symptômes du TSPT chez des enfants dont l'âge est compris entre 6 et 15 ans. Son efficacité dépend davantage de la complexification des techniques adaptées à l'âge de l'enfant (jeunes enfants ou adolescents) et selon le type d'événement (trauma singulier ou traumas répétés).

5.2. La thérapie familiale

Le rôle de la famille dans le soutien de l'enfant en difficulté a toujours été d'une importance capitale (Mash & Barkeley, 1998), et de façon particulière dans le traitement du TSPT. D'abord, il est évident que les jeunes enfants survivants d'un événement traumatique éprouvent des difficultés pour aborder, évaluer, exprimer et faire face à l'expérience traumatique. Ainsi, l'objectif de la thérapie familiale sera d'aider la famille à apporter son soutien à l'enfant en difficulté et ceci n'est possible que dans la mesure où les parents acquièrent des aptitudes et adoptent des attitudes qui permettent à l'enfant d'exprimer les émotions, les pensées et les sentiments liés au vécu traumatique. Ensuite, les parents peuvent dissuader les réponses d'évitement chez l'enfant.

Enfin, il est important d'impliquer la famille dans la thérapie car, selon différents résultats de recherche, les parents peuvent être eux-mêmes traumatisés par l'événement et dès lors leur vécu traumatique peut interférer avec celui des enfants. Cette interaction parent - enfant est très importante à la fois pour les parents et les enfants pour le rétablissement à long terme (Kazak et al., 1997). Ceci est plus dramatique dans des situations de violences communautaires au cours desquelles toute la population est directement touchée. Il est donc important que toutes les difficultés se gèrent en thérapie (réduire les symptômes des parents et encourager le développement du soutien familial et social). Les preuves issues de la clinique

des enfants montrent que les traitements impliquant les parents aboutissent à de meilleurs résultats que ceux qui se focalisent seulement sur enfants traumatisés (Barrett, et al., 1996).

5.3. Autres interventions psychosociales

Certains événements nécessitent des interventions psychosociales variées pour soutenir les différents efforts de l'enfant et de son environnement familial pour se remettre des séquelles du trauma. Dans des situations de violences humaines, la réhabilitation de la victime dans ses droits et le jugement du coupable constituent un atout pour aider la victime à sortir progressivement de cette position. D'autres interventions sont d'ordre socio-économique pour que l'enfant retrouve une vie rassurante : vie sociale, école, ...

Les violences humaines laissent certains enfants orphelins et les plongent dans un deuil difficile. Des interventions psychosociales, et d'autres thérapies, devront aider l'enfant et l'adolescent à faire le deuil de ses parents et de ses proches sans quoi le TSPT peut s'avérer plus sévère et persistant.

6. Conclusion

Cet article a circonscrit le concept de TSPT dans ses dimensions nosographiques et étiologiques. Nous avons montré que l'entité diagnostique du TSPT constitue une réalité complexe qui dépasse la seule causalité linéaire entre l'événement traumatique et les réactions post-traumatiques. Ainsi, le TSPT implique à la fois le rôle que joue l'événement d'une part, notamment par sa nature et son intensité, et d'autre part, l'évaluation subjective de cet événement par la victime, c'est-à-dire, l'évaluation de l'ampleur des conséquences, l'attribution des causes. Cette évaluation des causes et des conséquences est aussi tributaire

d'un certain nombre des facteurs à la fois intrinsèques et extrinsèques à l'enfant et l'adolescent. Ce faisant, la réalité du TSPT est plus complexe pour les jeunes enfants et adolescents que pour les adultes.

En ce qui concerne les événements traumatiques, il apparaît que les désastres naturels affectent différemment les victimes que les violences humaines. Le caractère volontaire et massif de souffrances résultant de ces dernières plonge les victimes dans un désarroi et les bouleverse dans tous les aspects de leur vie. Les guerres et les génocides ont ce caractère destructif car ils affectent grandement les ressources dont peut se servir la victime pour faire face au trauma. Dans de tels contextes, les enfants sont confrontés à la perte des parents et doivent apprendre à se débrouiller tout seuls. Nous disons tout seuls car ils doivent assumer une vie sans la protection (matérielle et affective) des parents. Et pourtant, comme cela apparaît dans le développement qui précède, le rôle des parents, et de la famille en général, dans le cours du TSPT est incommensurable.

La question de l'évaluation du TSPT a été discutée tant au niveau de l'approche que des instruments. L'intérêt de continuer les recherches dans ce domaine n'en reste pas moins important à la fois pour comparer la prévalence du trouble selon les différents types de traumas et pour valider les différents outils selon les types et les contextes socioculturels des traumas. Il est aussi important de faire un diagnostic différentiel du TSPT et des autres troubles associés à la suite des violences humaines. Dans nos publications futures, nous tenterons de vérifier si toutes les conséquences psychologiques d'un événement traumatique, a fortiori un génocide, sont comprises dans le TSPT. Nous pensons particulièrement au deuil comme réaction à la perte des êtres proches et chers.

Au terme de cet article nous postulons que la nature intense de l'événement et la séparation d'avec les parents prédisent le développement d'un TSPT sévère. Une telle hypothèse, comme mentionné précédemment, a été vérifiée et confirmée dans diverses situations : inondations, embuscade, accidents, feu de brousse, etc. Bien que les résultats issus de ces recherches soient pertinents, il s'avèrerait nécessaire de poursuivre les études pour d'autres contextes et différents types de traumatismes.

Références

- Ahmad, A., Mohamad, K. (1996). The socioemotional development of orphans in orphanages and traditional foster care in Iraqi Kurdistan. *Child Abuse and Neglect* 20:1161-1173
- Ahmad, A., Sofi, M. A., Sundelin-Wahlsten, V., & von Knorring, A. L. (2000). Posttraumatic stress disorder in children after the military operation "Anfal" in Iraqi Kurdistan. *European Child & Adolescent Psychiatry*, 9(4), 235-243.
- Almqvist, K., & BrandellForsberg, M. (1997). Refugee children in Sweden: Posttraumatic stress disorder in Iranian preschool children exposed to organized violence. *Child Abuse and Neglect*, 21(4), 351-366.
- American Academy of Child and Adolescent Psychiatry.(1998, 2000). *Practice Parameters for the Assessment and Treatment of Children and Adolescents with Posttraumatic Stress disorder*. Washington, DC: AACAP, Publications department.
- American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorders, 3rd edition (DSM III)*. Washington, DC : American Psychiatric Association.
- American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders, 3rd revised edition (DSM III-R)*. Washington, DC : American Psychiatric Association.
- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM IV)*. Washington, DC : American Psychiatric Association.
- Barrett, P.M., Rapee, R.M., Dadds, M.M., Ryan, S.M. (1996). Family enhancement of cognitive style in anxious and aggressive children. *Journal of Abnormal Child Psychol*, 224, 187-203.

- Beck, A.T. (1976). *Cognitive therapy and the emotional disorders*. New York : International Universities Press.
- Becker, D.F., Weine, S.M., Vojvoda, D. (1999). Case Series: PTSD symptoms in Adolescent Survivors of "Ethnic Cleaning." Results from a 1-Year Follow-up Study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 155, 1720-1726.
- Beitchman, J., Zucker, K., Hood, J., DaCosta, G., Akman, D., & Cassavia, E. (1992). A Review of the Long-Term Effects of Child Sexual Abuse," *Child Abuse and Neglect*, vol. 16, 1992, pp. 101-118.
- Benedek, E. (1985). Children and psychic trauma: a brief review of contemporary thinking. In: *Posttraumatic Stress Disorder in Children*, Eth, S., Pynoos, RS, eds. Washington, DC: American Psychiatric Press, pp 1-16.
- Berman, SL, Kurtines, WM., Silverman, WK., Serafini, LT. (1996). The impact of exposure to crime and violence on urban youth. *American Journal of Orthopsychiatry*, 66, 329-336.
- Brent, D.A., Perper, J.A., Moritz, G. et al. (1995). Posttraumatic stress disorder in peers of adolescent suicide victims. *Journal of American Academy of Child and Adolescent Psychiatry*, 34, 209-215.
- Brillon, P., Marchand, A. & Stephneson, R. (1996). Conceptualisations étiologiques du trouble de stress post-traumatique : description et analyse critique. *Revue Francophone de Clinique Comportementale et Cognitive*, 1(1), 1-13.
- Bryant, R.A., & Harvey, A.G. (1997) Acute stress disorder: a critical review of diagnostic issues. *Clinical Psychology Review*, 17, 757-773.
- Burgess, A., Hartman, C. & McCormack, A. (1987). "Abused to abuser: Antecedents of socially deviant behaviors ", *American Journal of Orthopsychiatry*, 44, 1431-1436.

- Cahill, C., Llewelyn, SP., Pearson, C. (1991). Long-term effects of sexual abuse which occurred in childhood: a review. *British Journal of Clinical Psychology*, 30(2), 117-130.
- Cicchetti, D., Toth, S.L., & Lynch, M. (1993). The developmental sequelae of child maltreatment: Implications for war-related trauma. In L. Leavitt & N. Fox (Eds.), *Psychological effects of war and violence on children* (pp. 41-71). Hillsdale, NJ: Erlbaum Associates.
- Clark, D. C., Pynoos, R. S., & Goebel, A. E., (1994). Mechanisms and processes of adolescent bereavement, in R., J., Haggerty, L., Sherrod, N., Garnezy, & M., Rutter(Eds). *Stress, Risk and Resilience in Children and Adolescents: Processes, Mechanisms and Interventions*, Cambridge University Press.
- Clarke, G.N., Sack, W.H., & Goff, B. (1993). Three forms of stress in Cambodian adolescent refugees. *Journal of Abnormal Child Psychology*, 21(1), 65-77.
- Corcoran, B.C., Green, L.B. (2000). Conceptual and Methodological Issues in Trauma History Assessment. In Corcoran, B.C., Green, L.B *International Handbook of Human Response to Trauma* (pp. 223-232). New York.
- Cyrlunik, B. (2001). Le tissage de la résilience au cours des relations précoces. In Fondation pour l'enfance (Ed.), *La résilience: le réalisme de l'espérance*. Ramonville Saint-Agne: Editions Erès.
- Davidson, J., Smith, R. (1990). Traumatic experiences in psychiatric outpatients. *Journal of Traumatic Stress Studies*, 3, 459-475.
- Earls, F., Smith, E., Reich, W., Jung, KG.(1988). Investigating psychopathological consequences of a disaster in children: a pilot study incorporating a structured diagnostic interview. *Journal of American Academy of Child and Adolescent Psychiatry*, 27, 90-95.

- Ehlers, A., & Steil, R. (1995). Maintenance of intrusive memories in posttraumatic stress disorder: A cognitive approach. *Behaviour Research and Therapy*, 23, 217-249.
- Ehlers, A. & Clark, D. M. (2000). A cognitive model of post-traumatic stress disorder. *Behaviour Research and therapy*, 38, 319-345.
- Elizur, E. & Kaffman, M. (1982). Children's bereavement reactions following death of the father. *Journal of the American Academy of Child and Adolescent Psychiatry*, 21, 474-480.
- Eth, S., Pynoos, R.S., (1985). Developmental perspectives on psychiatric trauma in childhood. In: *Trauma and its Wake*, Figley, CR, ed. New York : Brunner/Mazel, pp. 36-52.
- Fairbank, J.A., Schlenger, W.E., Saigh, P.A., and Davidson, J.R.T. (1995). An Epidemiologic Profile of Posttraumatic Stress Disorder: Prevalence, Co-Morbidity, and Risk Factors. In Friedman, M.J., Charney, D.S., and Deutch, A. (Eds.), *Neurobiological and clinical consequences of stress: From normal adaptation to PTSD*. New York: Raven Press, pp. 415-427.
- Figley, C. (1985). *Trauma and its wake*. New York: Brunner/Mazel.
- Fletcher, K.E. (1996). Childhood Posttraumatic Stress disorder in *Child Psychopathology* (pp.242-276), Mash-Barkley.
- Foa, E.B., & Riggs, D.S. (1993), Post traumatic stress disorder in rape victims. In J. Oldham, M. Riba, & A.Tasman, (Eds.), *American Psychiatric Press Review of Psychiatry*, Washington (DC), American Psychiatric Press,12, 273-303.
- Foy, D.W., Madvig, B.T., Pynoos, R.S., Camilleri, A.J.(1996). Etiologic factors in the development of posttraumatic stress disorder in children and adolescents. *Journal of School Psychology* 34, 133-145.

- Frederick, C.J.(1985). Children traumatized by catastrophic situations. In Eth, S., Pynoos, R.S (Eds.). *Posttraumatic Stress Disorder in Children*, Washington, DC: American Psychiatric Press, pp. 71-100.
- Galante, R., Foa, D. (1986). An epidemiological study of psychic trauma and treatment effectiveness for children after natural disaster. *Journal of American Academy of Child and Adolescent Psychiatry*, 25, 357-363.
- Garbarino, J., Kostelny, K. (1996). The effects of political violence on Palestinian children's behavior problems: a risk accumulation model. *Child Development*, 67, 33-45.
- Garrison, C.Z., Bryant, E.S., Addy, C.L, Spurrier, P.G., Freedy, J.R., Kilpatrick, D.G. (1995). Posttraumatic stress disorder in adolescents after Hurricane, Andrew. *Journal of American Academy of Child and Adolescent Psychiatry*, 34, 1193-1201.
- Goldstein, R. D., Wampler, N. S., & Wise, P. H. (1997). War experiences and distress symptoms of Bosnian children. *Pediatrics*, 100(5), 873-878.
- Green, AH. (1985). Children traumatized by physical abuse. In Eth, S., Pynoos, R.S (Eds). *Posttraumatic Stress Disorder in children*, Washington, DC: American Psychiatric Press, pp. 133-154.
- Green, B.L. (1990). Defining trauma: terminology and generic stressor dimensions. *Journal of applied Psychology*, 20, 1632-1642.
- Green, B.L.(1991). Disaster and Posttraumatic stress disorder. In Davidson, J., Foa, E., (Eds.), *Posttraumatic Stress Disorder in Review: Recent Research and Future Directions*, Washington, DC: American Psychiatric Press, pp 207-212.
- Green, BL., Grace, MC. et al.(1991). Children and disaster: age, gender and parental effects on posttraumatic stress disorder symptoms. *Journal of American Academy of Child and Adolescent Psychiatry*, 30, 945-951.

- Green, B.L., Grace, M.C., Vary, M.G., Kramer, T.L., Gleser, G.C., Leonard, A.C. (1994). Children of disaster in the second decade: 17 year follow up of Buffalo Creek survivors. *Journal of American Academy of Child and Adolescent Psychiatry*, 33, 71-79.
- Hanus, M. (2001). *La résilience à quel prix ?* Paris: Maloine (Ed.).
- Harvey, A.G., & Bryant, R.A. (1998). Relationship of acute stress disorder and posttraumatic stress disorder following motor vehicle accidents. *Journal of Consulting and Clinical Psychology*, 66, 507-512.
- Harvey, A.G., & Bryant, R.A. (1999). Dissociative symptoms in acute stress disorder. *Journal of Traumatic Stress*, 12, 673-680.
- Helzer, J.E., Robins, L.N., McEvoy, L. (1987). Posttraumatic stress disorder in the general population. *New England Journal of Medicine*, 317, 1630-1634.
- Herman, J.L. (1992). Complex PTSD: a syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*, 5, 377-391.
- Hoffman, M.A, Bizman, A. (1996). Attributions and responses to the Arab-Israeli conflict: a developmental analysis. *Child Development*, 67, 117-128.
- Horowitz, F.D.(1996). Developmental perspectives on child and adolescent posttraumatic stress disorder. *Journal of School Psychology* 34, 189-191.
- Janoff-Bulman, R. (1985). The Aftermath of victimization: rebuilding shattered assumptions. In Figley, C.R. (Ed), *Trauma and its Wake*, New York: Brunner/Mazel, pp 15-35.
- Jolly, A. (2003). Epidémiologie des PTSD. *Journal International De Victimologie (JIDV)*, Année 2, N° 1, octobre 2003.
- Jones, J. C. & Barlow, D. H. (1990). The etiology of posttraumatic stress disorder, *Clinical Psychology Review*, 10, 299-328.

- Kazak, A.E., Barak, L. P., Meeske, K., Christiakis, D., Meadows, A.T., Casey, R., Penati, B., & Stuber, M. (1997). Posttraumatic stress, family functioning, and social support in survivors of childhood cancer and mothers and fathers. *Journal of Counselling and Clinical Psychology*, 65, 120-129.
- Kinzie, J.D., Sack, W.H., Angel, R.H., Manson, S., Rath, B. (1986). The psychiatric effects of massive trauma on the Cambodian children: I. *Journal of American Academy of Child and Adolescent Psychiatry*, 25,370-376.
- Kinzie, J. D., Sack, W., Angell, R., Clarke, G., and Ben, R. A. (1989). Three-years Follow-up of Cambodian Young People Traumatized as Children. *Journal of American Academy of Child and Adolescent Psychiatry*, 28(4), 501-505.
- Krystal, (H). (1991). Integration and self-healing in post-trauma states: A ten year retrospective. *American Imago*, 48(1), 93-117.
- Lonigan, C.J., Shannon, M.P., Taylor, C.M., Finch, A.J., Sallec, F.R. (1994). Children exposed to disaster: II. Risk factors for the development of post-traumatic symptomatology. *Journal of American Academy of Child and Adolescent Psychiatry*, 33, 94-105.
- Mannarino, A.P., Cohen, J.A., Smith, J.A., Moore-Motily, S. (1991). Six and Twelve month folow-up of sexually abused girls. *Journal of Interpersonal violence*, 6, 484-511.
- March, J.S., Amaya-Jakson, L., Murray, M.C., Schulte, A. (1996). Cognitive-behavioral psychotherapy for children and adolescents with posttraumatic stress disorder: a controlled trial of new protocol-driven treatment package. AACAP Annual Meeting, Philadelphia, October 23-26, 1996.
- Mash, E. & Terdal, L. (Eds.) (1997). *Assessment of childhood disorders* (3rd Ed.). New York: Guilford Press.

- Mash, E.J., & Barkley, R.A. (1998). *Treatment of Childhood disorder*. New York: Guilford Press.
- McFarlane, A.C., Policansky, S., Irwin, C.P. (1987). A longitudinal study of psychological morbidity in children due to natural disaster. *Psychological Medicine*, 17, 727-738.
- McFarlane, Bellissimo, Norman (1995). The role of family and peers in social efficacy: Links to depression in adolescence. *American Journal of Orthopsychiatry*, 65 (3), 402-410.
- Nader, K., Pynoos, R.S., Fairbanks, L., Frederick, C. (1990). Children's posttraumatic stress disorder reactions one year after a sniper attack at their school. *American Journal of Psychiatry* 147, 1526-1530.
- Newman, C.J. (1976). Children of disaster: clinical observations at Buffalo Creek. *American Journal of Psychiatry*, 133, 306-312.
- Pynoos., R. S., Eth., S. (1986). Witness to violence: the child interview. *Journal of American Academy of Child and Adolescent Psychiatry*, 25, 306-319.
- Pynoos, R.S., Frederick, C., Nader, K. et al. (1987). Life threat and posttraumatic stress in school-age children. *Archives of General Psychiatry*, 44, 1057-1063.
- Pynoos, R.S., Nader, K. (1988). Psychological first aid and treatment approach to children exposed to community violence: research implications. *Journal of Traumatic Stress*, 1, 445-473.
- Pynoos, R. S., Nader, K., & March, J. (1991). Childhood post-traumatic stress disorder. In. J. Weiner (Ed.), *The textbook of Child and adolescent psychiatry* (pp.955-984). Washington Dc: American Psychiatric Press.
- Pynoos, R.S. (1992). Grief and trauma in children and adolescents. *Bereavement Care*, 11, 2-10.

- Pynoos, R.S., Sorenson, S.B., & Steinberg, A.M. (1993). Interpersonal violence and traumatic stress reactions. In L. Goldberger & S. Breznitz (Eds.), "*Handbook of stress: Theoretical and clinical aspects*". (2nd ed.). (pp. 573-579). New York: The Free Press.
- Pynoos, R. S., Goenjian, A., Tashjian, M., et al. (1993). Post-traumatic stress reactions in children after the 1988 Armenian earthquake. *British Journal of Psychiatry*, 163, 239-247.
- Pynoos, R.S., Steinberg, A.M., Wraith, R. (1995). A developmental model of Childhood traumatic stress. In: Cicchetti, D., Cohen, D., (Eds.), *Manual of Developmental Psychology*, Vol. 2: *Risk, disorder, and Applications*,. New York: John Wiley, pp. 72-95.
- Pynoos, R.S., Steinberg, A. M., and Piacentini, J.C. (1999) A developmental psychopathology model of childhood traumatic stress and intersection with anxiety disorders. *Biological Psychiatry*, 46, 1542-1554.
- Realmuto, G.M., Masten, A.S., Carole, L.F., Hubbard, J., Groteluschen, A., Chhun, B. (1992). Adolescent survivors of massive childhood trauma in Cambodia: life events and current symptoms, *Journal of Traumatic Stress* 5, 589-599.
- Sack, W.H., Angell, R.H., Kinzie, J.D., Rath, B. (1986). The psychiatric effects of massive trauma on Cambodian children: II. The family, the home and the school. *Journal of American Academy of Child and Adolescent Psychiatry*, 25, 377-383.
- Sack, W.H., Clarke, G.N., Seeley, J. (1995). Posttraumatic stress disorder across two generations of Cambodian refugees. *Journal of American Academy of Child and Adolescent Psychiatry*, 25, 377-383.
- Sack, W.H., Seeley, J.R., Clarke, G.N. (1997). Does PTSD transcend cultural barriers? A study from the Khmer adolescent refugee project. *Journal of American Academy of Child and Adolescent Psychiatry*, 36(1), 49-54

- Saigh, P. (1988). The development and validation of children's Post-traumatic Stress Disorder Inventory. *International Journal of Special Education*, 4, 75-84.
- Saigh, P. (1989). The validity of the DSM III posttraumatic stress disorder classifications as applied to children. *Journal of Abnormal Psychology*, 98, 189-192.
- Salmon, K., Bryant, R.A. (2002). Posttraumatic stress disorder in children. The influence of developmental factors. *Clinical Psychology Review*, 22(2), 163-188.
- Schwarz, E.D., Kowalski, J.M. (1991). Posttraumatic stress disorder after a school shooting: effects of symptom threshold selection and diagnosis by DSM-III, DSM-III-R or proposed DSM-IV. *American Journal of Psychiatry*, 148(5), 592-597.
- Schwarzwald, J., Weisenberg, M., Solomon Z., Waysman M. (1994). Stress reactions of school-age children to the bombardment by Scud Missiles: a 1-year follow-up. *Journal of Traumatic Stress*, 7(4), 657-667.
- Servan-Schreiber, D., Le Lin, B., & Birmaher, B. (1998). Prevalence of posttraumatic stress disorder and major depressive disorder in Tibetan refugee children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(8), 874-879.
- Shannon, M.P., Lonigan, C.J., Finch, A.J., Taylor, C.M. (1994). Children exposed to disaster: epidemiology of post-traumatic symptoms and symptom profile. *Journal of American Academy of Child and Adolescent Psychiatry*, 33, 80-93.
- Shaw, J.A., Applegate, B., Schorr, C. (1996). Twenty-one month follow-up study of school age children exposed to Hurricane Andrew. *Journal of American Academy of Child and Adolescent Psychiatry*, 35, 359-364.
- Spiegel, D., Koopman, C., Cardeña, E., & Classen, C. (1996). Dissociative Symptoms in the Diagnosis of Acute Stress Disorder. In L.K. Michelson & W.J. Ray (Ed.) *Handbook of Dissociation*, (pp.367-380). New York: Plenum Press.

- Spitzer, R.L., Williams, J.B.W., Gibbon, M., First, M.B. (1990). *User's guide for the structured clinical interview for DSM-III-R*. Washington, D.C.: American Psychiatric Press, 1990.
- Stuber, M.L., Nader, K., Yasuda, P., Pynoos, R.S., Cohen, S. (1991). Stress responses after paediatric bone marrow transplantation: preliminary results of a prospective longitudinal study. *Journal of American Academy of Child and Adolescent Psychiatry*, 30, 952-957.
- Sydor, G. (1995). Les méthodes d'évaluation de l'état de stress post-traumatique. *Thérapie comportementale et cognitive*, vol.5, N° 3, 76-93.
- Sydor, G., Philippot, P. (1996). Conséquences psychologiques des massacres de 1994. *Santé Mentale au Québec*, XXI, 1, 229-246.
- Terr, L.C.(1979). Children of Chowchilla: study of psychic trauma. *Psychoanalytic Study Child*, 34, 54-627.
- Terr, L.C. (1983). Chowchilla revisited: the effect of psychic trauma four years after a school bus kidnapping. *American Journal of Psychiatry*, 140, 1543-1550.
- Terr, L.C. (1991). Childhood traumas: an outline and overview. *American Journal of Psychiatry*, 148, 10-20.
- Wolfe, D.A., Zak, L., Wilson, S., & Jaffe, P.G. (1986). Child witnesses to violence between parents : critical issues in behavioral and social adjustment. *Journal of Abnormal Child Psychology*, 14, 95-104.
- Wolfe, D.A., Sas, L., Wekerle, C. (1994). Factors associated with the development of posttraumatic stress disorder among child of sexual abuse. *Child Abuse and Neglect*, 18, 37-50.
- Wolfe, V.V., Gentile, C., & Wolfe, D.A. (1989). The impact of sexual abuse on children: A PTSD formulation. *Behavior Therapy*, 20, 215-228.

- Yule, W. & Williams, R. (1990). Post traumatic stress reactions in children. *Journal of traumatic Stress*, 3 (2), 279-295.
- Yule, W., Udwin, O. (1991). Screening child survivors for post-traumatic stress disorders: Experiences from the 'Jupiter' sinking. *British Journal of Clinical Psychology*, 30, 131-138.
- Yule, W. (1992). Post-traumatic stress disorder in child survivors of shipping disasters: The sinking of the "Jupiter." *Psychotherapy and Psychosomatics*, 57, 200-205.
- Yule, W., Perrin, S., & Smith, P. (1999). Posttraumatic stress reactions in children and adolescents. In W. Yule (Ed.), *Posttraumatic stress disorders: Concepts and therapy* (pp. 25-50). London: John Wiley and Sons.

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Relationship between Trauma and Bereavement

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Running Head: TRAUMA AND BEREAVEMENT

Abstract

This chapter reviews the existing literature on bereavement and its deleterious association with trauma. Contrary to studies assessing PTSD and grief separately, the chapter emphasises the need to consider the association of the two in traumatic bereavement. Some situations, e.g. man-made disasters, involve both trauma and bereavement. Such double burden may exacerbate the distress and delay or divert effective coping in adults as well as in young children. The need for more precision regarding traumatic grief assessment criteria and tools is stated.

KEY WORDS: children, trauma, bereavement, overlap

Like adults, Children are confronted to losses and separations during their lifespan. Losing father, mother, brothers, sisters or acquaintances in childhood is a hard experience. Although every loss of close relative is difficult to cope with, some deaths seem to be more overwhelming than others, especially when they occur massively and are associated with violence. In such instance, they are to be traumatic. In this chapter we explore bereavement and grief implications in children and adolescents. We also expose how grief difficulties, particularly traumatic grief, result from an association between trauma and bereavement. Finally, assessment issues are briefly explored with more emphasis on risk factors.

1. Concepts clarification: bereavement, mourning and grief

Different concepts are used to refer to a situation, process or reactions derived from the loss of a close relative. Bereavement, mourning and grief each represent feature of the loss experience (Zech, 2006).

Bereavement refers to the objective situation of the loss of a beloved one by the death, a state or a fact of being bereaved. Yet this term does not explain the nature of stress neither does it precise its adjustment process (Kasternbaum, 1997).

Bowlby (1960) defines grief as a sequence of subjective states derived from losses and related to mourning. Grief characterizes the severe and prolonged distress from the loss of a relative. Bowlby's grief model distinguishes two forms of distress reaction: protest and despair (Weiss, 2002). Protest is marked by the preoccupation of the loss, with important waves of pain, vigilance and tension. Inversely to protest, despair is a tendency of apparent withdrawal from ongoing life. Wolfelt (1983) denotes how grief is a process manifested by a diversity of thoughts; emotions and behaviours rather than a specific emotion such as fear, sadness or any other. In the

same way, Corr et al (2000) define grief as a reaction to loss expressed by sentiments, physical, cognitive and behavioural responses (Worden, 1991). Empirical and clinical observations show that grief states as function of the nature of the loss. From this, grief associated with the loss of a spouse may differ from grief resulting from the loss of a child. Similarly, a child losing his/her parent reacts in a specific way as compared to adults. Further, loss of parent is to affect children significantly and substitutive figures will not interrupt distress (Weiss, 2002).

As far as mourning is concerned, different theoretical explanations exist. Psychoanalysis defines grief as a psychological activity resulting from the loss of an objet or a person (Furman, 1974). This psychological activity, usually called “grief work”, involves a painful and gradual separation process from beloved or deceased person allowing starting new relationships. Solving and closing grief work means abandoning liaisons or bonds with the deceased person. This theoretical model explains not only the initial reaction to loss but also the grief resolution process, involving emotional regulation and adaptation (acceptance) to losses (Grossberg & Crandall, 1978). Attending grief resolution also means that the individual must understand the signification, importance, constancy and inevitability of loss (Krueger, 1983). In other words, in spite of characteristic feelings of grief such as sadness or anger, the individual needs to understand that the deceased person won’t be back and that life continues to have a sense. Adaptation or acceptance about inexorable loss constitutes what Bowlby (1960) qualifies of the relinquishing of the objet.

Another theoretical model about grief (Klass, Silvermen & Nickman, 1996), explains how individuals keep ties with deceased persons. This perspective differs from conceptions about grief work as an action oriented to disengagement and attachment abandonment, which

constitutes the grief work purpose. In contrast, individuals would save their attachment to the deceased persons but under a non painful form. These liaisons become positive memories that help individuals to pass from negative emotions and sentiments to positive ones. Passing through allows individuals to recall the deceased person without any perturbation or avoiding to think of him/her.

Do children understand, as well as adults, death reality? If so, are they able to adjust when parents decease?

2. Death understanding and grief in childhood

What does a child know about death? When and how does a child learn about it? Innocence of childhood lets us assume that the reality of death could be hidden or explained to a child only later. Becker (1973) explains that adults have a “constant fear of death” while children are characterized by a “total non conscience about this fear” (p. 17). If adults do not deal with or accept their fear about death, how could they consider the reality of death with their own children?

Evidently, every day experiences confront children to death, directly or indirectly. Furthermore, some violent situations such as war and community violence confront young children to horrific deaths of relatives or acquaintances. But it seems that, compared to adults, children react in other ways to what they observe or listen to.

2.1. Children's process of understanding death

The most important thing to understand about death is its irreversibility, inevitability and universality. Generally, children learn about death when they are 7 or 8 years old thanks to cognitive development and every day experience (Webb, 2002). Some children could learn death notion since infancy (Wass & Stillon, 1988) because pet's death (Yalom, 1980) or family decease (Kane, 1979). For most of children, normal rational thinking development drives to acquisition of death meaning.

Although Piaget's works did not consider the construction of death meaning for children, his theories regarding children's thinking development can be adapted to this subject (Webb, 2002). Piaget's theory underlines that death notion is not acquired during infancy. However, it is not true that children, even in early infancy, do not experience or react to family or acquaintance losses, *a fortiori* death of the mother. Child always waits for mother's return when she is gone (see Bowlby's attachment theory later in this chapter). Even if, until a certain age, a child does not clearly comprehend the reality of death, its universality and irreversibility; he/she nevertheless knows to identify and to react to someone's departure, especially his/her mother.

2.2. Are children able to undergo grief work?

This question is constantly asked and discussed by experts. Responses concern the grief conception as well as the theoretical framework. If grief understanding and process depend on knowledge (cognitive comprehension ability) about death, as Krueger previously mentioned, a positive response is not possible until puberty.

However, Bowlby considers that it is possible to observe sorrow and grief in babies separated from their mothers. Analysing Robertson's studies on babies (18-24 months old) separated from their mothers, Bowlby (1960) underlines that infants are overwhelmed like adults by the decease of a loved person. Analyzing babies' reactions to mothers' absence, Freud attributed cries and facial expressions to anxiety and evident sorrow (Webb, 2002). Clearly, children separated from their mothers, temporally (because of departure) or definitely (because of death), present sadness or rage reactions and pass through phases described by Bowlby as protestation, despair and detachment. Nevertheless, it would be inadequate to give to this response the interpretation given to grief work when the child does not understand the value or implications of loss in his/her life. Sadness, rage and desire derived from losses are grief reactions, but they do not explain current grief work mainly because of the immaturity to understand the loss (Webb, 2002). This hypothesis could open a semantic debate among children's therapists. There is non doubt about babies and toddlers emotional perturbation, but it seems impossible to attest that babies engage in on a reparatory grief work which means detachment in order to construct new relationships.

The question about grief work in children can thus be semantically put under another form. Considering grief work as the detachment from the deceased person, is the child able to do it? The answer is no. In fact, some practitioners are sceptic with that notion of detachment charactering the grief work achievement. Instead, bereaved children maintain bonds with their deceased parents (Webb, 2002).

Baker, Sedney & Gross (1992) proposed another point of view about children's grief work. They consider grief as a set of psychological tasks to be done through the child

development. These authors state that detachment is not necessary for grief to happen. In fact, children maintain their attachment to the deceased person, *a fortiori* their parents. This plays an important role for children's psychological development (e.g. identification) and even during their adulthood. This argument suggests that children do not completely relinquish all bonds from deceased parents and that their mental imagery remains attached to them. Children's detachment happens progressively as they grow up and prepare to engage in new relationships with parent's substitutes.

In brief, these conceptions which seem conflicting are in fact complimentary. Like adults, children are affected by the loss of a close relative, particularly a parent. Obviously, given their cognitive abilities, adults and children differ in their way of expressing and coping with their grief.

2.3. Children grief specificity

Researchers and practitioners interested in bereaved children report both differences, and similarities between children and adults grief reactions (Webb, 2002). Probably, adults may think that young bereaved children are not affected or suffer from a loss of a close relative when considering their cognitive development. So far, this hypothesis is not defensible. Emphasizing the argument, Wolfelt (1983, p. 20) stresses that « grief does not focus on one's ability to 'understand'; but instead upon one's ability to 'feel'. Therefore any child mature enough to love is mature enough to grieve ». With their ability to love and to get attached, children are able to grieve. Denial, anger, guilt, sadness and yearning of deceased person are felt by children and adolescents as it is for adults.

Child and adult's grief may differ in some aspects. Firstly, children cognitive immaturity interferes with their understanding of the death reality (irreversible, universal and inescapable nature of the death). From this point, young children can wait over and over again that deceased person will come back to them. Secondly, children have a limited ability to tolerate emotional pain and (3) limited competencies in order to verbalize their feelings. Given these limited abilities, children express their feeling by the play or some times with behaviour problems. Finally, children, as it is assumed for adults, don't directly detach themselves from the deceased person; rather they keep some links with the deceased parent enabling their psychological development.

3. Normal versus complicated grief

In spite of the painful and sometimes extended nature of the death experience, grief constitutes a part of the normal psychological adaptive process to the loss.

3.1. The normal bereavement

Bereavement studies among adults allowed to define some reactions (disturbances, impairment) and signs (symptoms) specific to the bereavement experience. Among disturbances, there are cognitive, affective, emotional and behavioural disorganizations. Bowlby (1984) reported that the child's bereavement experience, and associated mourning tasks depend on the degree and the quality of the attachment with the deceased. According to this theory, a child detaches himself from the deceased person differently according to the type of attachment: secure attachment, insecure attachment or non-attachment.

3.1.1. Bowlby's model: the attachment theory

The concept of bereavement was studied in a psychoanalyst way from works of Freud (1917) on the bereavement and the melancholia (“*Deuil et mélancolie*”). According to this model, the bereavement and the work that it implies consist of an intrapsychic effort of disinvestment of the self from the “lost object” and an intrapsychic effort for new objects attachment.

According to the Bowlby's theory (1984), bonds and attachment between parents and their children are essential for the children's development and psychological well-being. Bonds encompass the emotional investment of the parents towards their children. Attachment reflects the affective bonds that children develop towards their parents and that determine the sense of the self and of the environment. This theory underlines (1) individual needs of a secure attachment in order to extend and discover individual inner and environmental world; (2) persistent needs of attachment throughout the lifespan; (3) negative consequences of an early break of the affective bonds or attachments; and (4) the vital need for child's mental health to have a substitute able to maintain a caring presence (closeness, assurance, care) and to accept the child's protest to the separation. Thereby, the loss of the attachment figure result in a loss of the security that is represented by this face and creates a source of anxiety for the child.

In his publications « *Separation Anxiety* » and « *Grief and Mourning in Infancy and Early Childhood* », Bowlby (1959, 1960) underlined the effects of maternal deprivation (experiment on macaques) and concluded that it exists on one hand an important attachment between the child and his mother, and on the other hand the occurrence of dramatic reactions of distress due to the separation. At the same time, Bowlby (1960) rejected the statement that bereaved children were not able to grieve for their losses because the self ability would not be developed enough.

Likewise, grief process and distress are not eased ipso facto by the availability of a parental substitute.

However, Bowlby's attachment theory which is based on separation anxiety and the loss of the relationship (of attachment and protection) is incomplete (Stroebe & Schut, 1999). Stroebe findings on grief and cognitive coping mechanisms show that on one hand the bereaved person is anxious due to the lost relationship (attachment, bond, linkage) and on the other hand, there is a stress consecutive to the need of life restoration without the deceased person. Further, it is assumed that the recovery does not always correspond with precise and scalable phases.

3.1.2. The Dual process model of Coping with Bereavement

Stroebe and Schut (1999) believe that the current notion of mourning developed from Freud's model is not suitable anymore to explain the whole process and all the coping strategies after a loss. Stroebe and Schut model, *The Dual process model of Coping with Bereavement*, identifies, on the one hand, two kinds of stress (loss and restoration stress) which the person has to confront when bereaved, and on the other hand, a cognitive process of oscillation between confrontation and avoidance of the loss. Further, the model rejects the unilateral process (grieving the relationship with the deceased) and linear phase supposedly characterizing mourning process (Freud's model). It enlarges the specter of specific stressors (loss and restoration), cognitive strategies (confrontation and avoidance) associated with bereavement and dynamic process of oscillation that characterize those strategies. Figure 1 presents the oscillation movements as developed by Stroebe & Schut (2001).

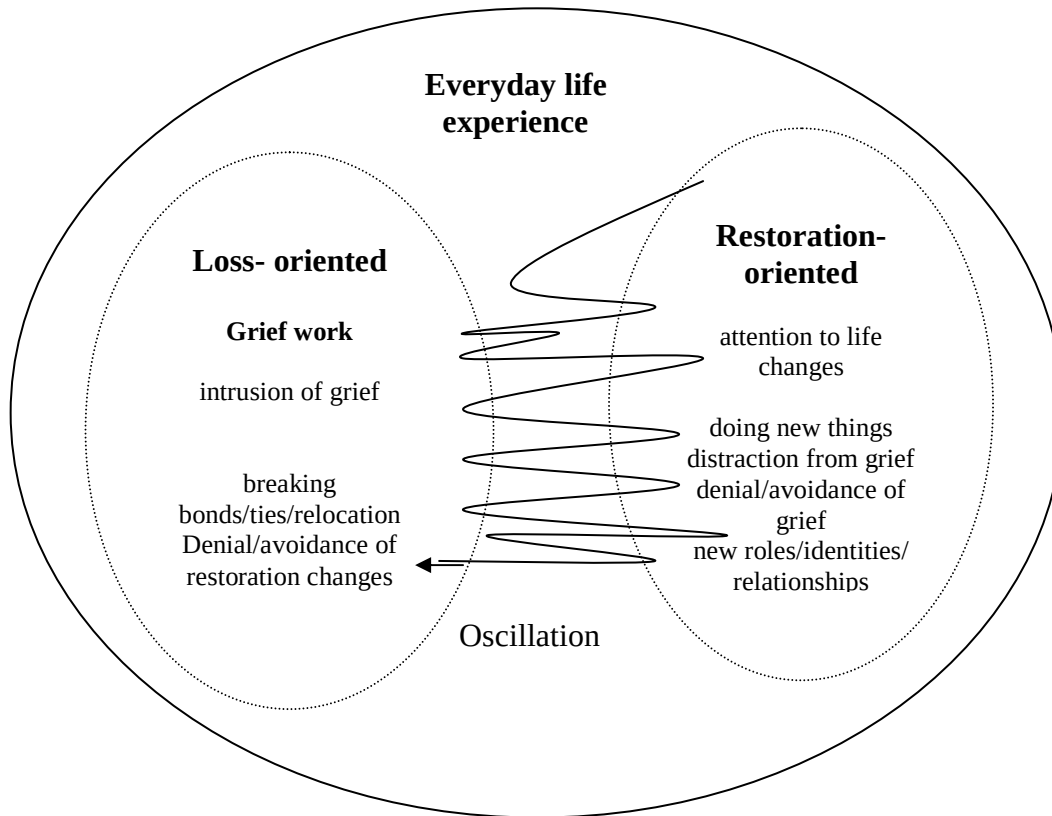


Figure 1 A dual process model of coping with bereavement

3.1.2.1 The stress associated to bereavement: loss versus restoration

Concerning stressors that are source of grief, bereaved individuals are engaged in a dual process which aims at adapting to the relation loss and at the restoration, i.e. loss-and restoration-oriented coping (Stroebe & Schut, 2001). Coping with loss oriented stress implies that the attention is more specifically centred on the deceased person. This includes ruminations on past life with the deceased, events and circumstances surrounding the death. To this reminiscence activity are associated emotional reactions and their interaction determines the course of grief. Some of the emotions are overlapping, frequently unwanted and unexpected. Primarily, all those affects are negative (anger, sadness, fear) but could develop progressively into positive affects

(happiness and nostalgia). Loss oriented coping consists in that alternation between negative and positive affects, and confrontation and avoidance. Therefore the adaptation does not presuppose precise stages but a continuous flexibility and a negotiation between confrontation and avoidance (Stroebe & Schut, 1999).

Restoration constitutes a second stress to be dealt with when bereaved. Earlier models didn't consider this dimension as a constitutive process of bereavement and thus as a stressor. Nevertheless, it seems that at the same time that the mourner is engaged in a loss oriented process, he/she is also confronted to the social solitude and the change in his/her social status (Stroebe & Schut, 1999). Confronting close relative death, mourners indeed face up the grief for the deceased but have also to adapt to the main changes resulting from the loss. For several mourners, those changes are source of additional stress increasing the loss weight and accounting for additional anxiety and confusion. The situation may be more complicated if the mourner is too young to bear the new responsibilities and changes.

3.1.2.2. Oscillation

Oscillation is the central aspect of this model. It differs from classical theories of bereavement that postulate that mourners undergo specific and continuous steps when grieving. Oscillation is thought to be a dynamic process that encompasses an alternation between confrontation and avoidance of grief on one hand, and the alternation between stress related to loss and restoration on another hand. Bereaved individuals are sometimes confronted to their loss, and sometimes they avoid their memories, distract themselves, or search for a relief by thinking about new situations or other things.

This cognitive process is a regulatory mechanism that differs from the straight-forwarded steps of bereavement from psychoanalysis's model (Stroebe & Schut, 1999). That "confrontation-avoidance" oscillation helps bereaved individuals to deliberately leave painful aspects of the loss, to distract and do other activities, resulting into a deliberate suppression of pain. Thus, it differs from the psychoanalysis's model according to which the bereaved has to continuously confront the loss as avoidance is detrimental. Certainly, such avoidance is reported to be helpful as far as mourners can find emotional balance and resources to continue the confrontation later.

Briefly, what is the benefit of such a model? According to Stroebe and Schut (1999), oscillation is necessary for optimal and progressive decrease of stress related to loss and restoration. Indeed, through oscillation, mourners decide to turn away from the deceased painful imagery and to distract him/her, and start new activities. This model acknowledges the benefits of oscillation, and differs from psychoanalytic theories that point out detrimental effects of denial and avoidance. Nevertheless, this model is still at an experimental stage and thus needs to be extended to further cases such as bereaved children and all bereavement situations, e.g., traumas that lead to sudden and violent deaths (Stroebe & Schut, 1999).

It could be assumed that in violent situations (traumatic bereavement) confrontation will be more difficult as compared to natural death. Consequently, traumatically bereaved individuals tend to more avoidance. In such situation, bereaved from extremely traumatic situations will tend compulsive avoidance instead of the more demanding confrontation with the loss and subsequent emotions (Kaminer & Lavie, 1993; Stroebe & Schut, 2001).

3.2. Complicated grief

Stroebe and Schut's model (1999) provides a framework to understand the different types of grief, that is, missing, inhibited, delayed, and chronic. As described by these authors, the identification of a specific category of complicated grief applies to the "loss oriented syndrome". In addition to the above types, grief can be also intensified and then prolonged for longer period than usual (Bacqué, 1995).

Consistent with the models, missing (denied) and inhibited grief is associated with restoration-oriented coping. With denial, bereaved individual refuses to accept the deceased individual's absence, in order to stay in a « *safe* » world, and then refuses to confront the reality of death. Generally, with missing or delayed grief, bereaved individuals show no reactions of sadness following the death, continuing their life as usual, or expressing only non-descriptive anxiety and helplessness. In contrast, in intensified grief, individuals seem overwhelmed by grief reactions (anger, guilt regarding the deceased).

Another type of grief is the unachieved one. Sometimes, symptoms of grief (depressive symptoms, sorrow) persist without decreasing after the usual period (6th-12th months) (Bacqué, 1995). In some cases of lasting grief, bereaved individuals present severe depression symptoms that seem to paralyse normal life functioning. In other cases, the individual seems to have abandoned external signs (social, affective, and behavioural) of grief, but continue to live "in the past" and think to the deceased. These unachieved grieves can appear after several years, in the form of overwhelming emotions (affective pain) at birthday dates and at any important life event like wedding or additional death in the family.

Although it is evident to realize how grief can be complicated, the way bereavement deviate from the normal grieving process is not clear. With a step forward, Stroebe and Schut's model locates the complicated grief between grief and trauma, thus constituting "traumatic grief" (Stroebe & Schut, 1999; Stroebe & Schut, 2001; Stroebe, Schut & Finkenauer, 2001).

3.3. The traumatic grief

Observations from psychotherapists suggest a category of traumatic grief that is grief complicated by a trauma surrounding sudden and violent death (Jacobs, 1999). Traumatic grief is postulated to be an interaction between bereavement and trauma reactions (Stroebe, Schut, & Finkenauer, 2001). The category of traumatic grief seems to be comprehensive and with concrete clinical implications. Firstly, the concept "traumatic grief" avoids any confusion with existing negative terms such as pathological, neurotic, or morbid grief (Bacqué, 1995). Secondly, naming « traumatic grief » is better than "complicated" or "unachieved grief" whose meaning is not clear. The concept "traumatic grief" specifies two fundamental and different dimensions underlying the disorder: separation distress and traumatic distress (Raphael & Martinek, 1997). Then, following a traumatic death, the child has to face traumatic symptoms, grief's sorrow, and an interaction between both (Webb, 2002).

In line with the traumatic grief taxonomy, traumatic features associated with violent death increase grief reactions intensity. With that, traumatic aspects interfere with loss oriented coping strategies (confrontation versus avoidance, oscillation). For example, the traumatic re-confrontation to the loss evokes all the violent context of the death that interferes with grief

process at several points. Deceased remembrance recalls the violent scene of the death. Second, intrusive dreams can reactivate horrific scenes surrounding the death and then exacerbate psychological distress, instead of helping to resolve grief. In addition, all loss reminders, objects and memories of the deceased, are embedded with the traumatic experience and the horror of the death. In fact, within normal grief, the deceased's memory is part of the adaptive process, reorganisation, and remission. It can elicit nice or sad thoughts, and leads bereaved individual to accept and re-define new relationship with the deceased. To the contrary, following a traumatic death, memories lead to traumatic recollections, such as deceased disfigurements imagery, that is the whole traumatic context of the event.

4. Comorbidity between grief and PTSD

Some situations can lead simultaneously to grief reactions and post-traumatic stress disorder symptoms. What are the differences and similarities between grief and PTSD? Stroebe et al. (2001) point out differences between both, but also an evident co-morbidity (Stroebe, Schut, & Finkenauer, 2001)

4.1. Grief and PTSD are different from each other

Differences between PTSD and grief can rely on the type of event (its nature, intensity, and impact) and the subsequent symptoms (physical and psychological reactions) depending on the event (Stroebe, Schut, & Finkenauer, 2001).

4.1.1. Type of events

What are the types of event that should cause PTSD and/or a grief? Exposure to traumatic events has been reported as risky factor of developing PTSD. Traumatic events are involving life threat, death event that is as compromising to personal safety or that of friends, associates, or family (DSM IV, APA 1994). Chapter one developed in details PTSD diagnostic criteria;

Grief is related to loss, not necessarily violent, of a close relative (partner, child, and parent). However, certain situations can include both trauma and loss, and these are for example accidents, war events and human violence. In addition to the traumatic context of the death, the amount of losses following mass killings is challenging to deal with. In such cases, co-morbidity between trauma and grief is evident. From this point, the diagnosis of the grief distress should include the traumatic shock related to the grotesque circumstances of the loss (Stroebe, Schut, & Finkenauer, 2001).

In sum, a traumatic event can appear without any bereavement. Likewise, some bereavement situations are natural and don't involve necessarily violent circumstances. Therefore, grief can be diagnosed separately with PTSD depending on the aetiological events. However, other events may include both diagnoses, and lead to a third category of "traumatic grief". In such cases, a differential diagnosis has to be made, and the co-morbidity between processes responsible for both PTSD and grief has to be analyzed.

4.1.2. Extreme responses

Based on the above vent type's explanation, the model seems to be simple. However, it is more complex when we consider factors that determine the extreme impact of stress (Stroebe,

Schut, & Finkenauer, 2001). About trauma, this is directly linked with the importance of the event (e.g., the most important is the level of exposure severity; the most severe is the impact on the individual). As far as grief is concerned, reaction intensity depends on the importance and the type of relation with the deceased (importance of links, attachment, and dependence). Similarly, in traumatic grief, the reaction will be function of the interaction between trauma and grief. The key question is whether it is the addition of symptoms or an intensification of common symptoms between both. Nader (1997) strongly defends the last point. For example, deceased-oriented thoughts can lead to traumatic memories/intrusions, and traumatic aspects of the death can complicate grief process (avoidance and difficulty to confront memories of the deceased because they elicit a trauma associated with death circumstances).

4.1.3. Psychological functioning

Grief, as well as trauma, induces psychological and physical symptoms in most people. However, responses patterns differ in both types of life experiences (Horowitz, 1986; Stroebe & Stroebe, 1987; Nader, 1997; Raphael & Martinek, 1997).

Reactions following a traumatic event are described as the “stress response syndrome”: the most dominant component is “intrusions versus avoidance” (Horowitz, 1986). In contrast, grief reactions – sorrow – include a variety of emotional, cognitive, and behavioural manifestations of sadness (Stroebe et al., 2000). Regarding grief, avoidance is less present. To the contrary, we can observe symptoms of yearning (the desire to find and speak to the disappeared). However, in some situations, co-morbidity between bereavement and trauma can be observed leading thus to grief and PTSD embedding.

4.2. Grief and PTSD embedding

Psychological processes and reactions to traumatic death are related to trauma (stress response syndrome) and grief. It is also evident that reactions to the first (trauma) could interfere with those of the second (grief). In such situations, traumatically bereaved individuals seem to be confronted against a “*double psychological burden*” in facing the two psychological processes (Raphael and Martinek, 1997). In line with this, the authors note that the content of intrusions, memories and worries are different in the two types of experiences (see Table 3). While trauma intrusions are related to the event scene; they are focused on the loss of a relative in case of grief. Moreover, in the first situation (trauma), anxiety is related to an experienced threat and trauma reminders, while in the second (grief) anxiety refers to the distress of separation associated with the loss (Raphael& Martinek, 1997).

Further, trauma victims attempt to avoid trauma reminders and emotions, and tend to isolate themselves from others. In non-traumatic bereavement, it is observed that bereaved individuals try to find loss reminders and express or share their loss experience. With regard to arousal, this cluster of symptoms is reported in both experiences, but the orientation differs. In PTSD, victims are hypervigilant in anticipating menace, attempting to prevent or avoid any threat or trauma reminders, yielding important anxiety that results in sleep and concentration disturbances. On the other hand, in grief cases bereaved express desire and nostalgia about the deceased; this being the reason why bereaved individuals are aroused and searching for the deceased or loss reminders.

In-depth studies and clinical observations evidenced that trauma and bereavement reactions overlap and are embedded in the situation of violent death (Raphael & Martinek, 1997; Stroebe, Schut, & Finkenauer, 2001). The overlap between grief and traumatic reactions include intrusive memories and reminiscences, dreams and sleep problems, as well as concentration and attention impairments and anxiety. Simpson (1997) states that, from a clinical point of view, important distress and functioning damage are frequent in bereavement (non-traumatic) and trauma, and the distress duration seem to be similar. Alike, the author notes other common aspects between non-bereavement trauma and non-traumatic bereavement like guilty and shame, self-destructive intents, interpersonal functioning (hostility), constant changes in value and belief systems.

5. Traumatic grief assessment

Assuming an overlap between trauma and grief implies to define precisely the new category of traumatic grief including risk factors, assessment criteria and tools. With regard to assessment criteria and tools, ongoing research agrees on appropriate criteria and tools to capture traumatic grief symptoms. Like PTSD assessment, traumatic grief criteria resemble partly on those of post-traumatic syndrome. Despite these similarities, traumatic grief criteria differ partly in their content and include yearning and searching symptoms that are specific to grief (Jacobs, 1999; Stroebe et al., 2000).

Actually, grief manifestations could acquire different forms and their duration is variable depending on individual factors, as well as cultural conditions or decease circumstances (Webb, 2002). A literature revue lists some factors that could complicate grief. These factors include

bereaved individual characteristics (age, character, life style and coping), decease circumstances (violent death, chronic illness) and those associated to familiar and environmental context (Webb, 2000; Zech, 2006).

5.1. Individual factors

Taking into consideration childhood, age at parent or relative death, coping strategies, character, and previous experiences of grief are important factors affecting grieving process. As mentioned earlier, cognitive capacity to comprehend death reality is mostly related to age. In adulthood, personality, gender and coping strategy may also intervene in the bereavement outcome.

5.2. Factors related to death circumstances

Death nature (sudden and tragic), proximity with deceased person (to be present in death moment) and accomplishment or not of funeral rituals reactions to child grief are also important factors related to circumstances that must be included on assessment of grief.

Depending on the age, children are sensitive to sudden, tragic or stigma conditions associated with parent death. For having witnessed violent death, children learn about sorrow, suffering, violence and trauma (horror) related to the death (Webb, 2002). In that situation, they are afraid, fearing for their life, as well as their relatives, and can develop post-traumatic symptoms that in turn interfere on grief process (Eth & Pynoos, 1985). Thus, efforts to cope with traumatic anxiety jeopardize grief process, and highly increase the likelihood of pathological grief response.

5.3. Family, community and cultural factors

Child's family and social environment (school, peers groups, and community in general) are simultaneously grief protective and risk factors (normal or complicated). Secure and supportive family ties are helpful in ensuring bereaved children with a guaranty that relatives would care about their needs of protection and basic needs satisfaction.

The situation may be more complicated when death strike the entire family like it is in warzones. When death brings to family disarray, and normal family functions broken, children are likely to engage in complicated grief. Given that all parents and capable relatives are killed, surviving young children frequently play the role of their deceased parents to take care of their younger siblings. That early adult responsibility and the insecure family setting are of deleterious consequence on these bereaved children (Hetu, 1989).

Further, mourning is also a social matter. Each society has proper rituals to overcome death experience in recognizing the loss and bringing support to bereaved individuals. Like adults, children may benefit from these social practices, like attending deceased farewell ceremonies, being offered condolence, visiting the grave, etc. Bereavement researchers and practitioners stress that these rituals are of wealthy benefits for both bereaved children and adults (Webb, 2002). In that way, indecent death and not practicing appropriate funeral rituals is of detrimental consequences.

Briefly, the assessment of traumatic grief is being discussed nowadays by a growing number of researchers (Stroebe, M. et al., 2001; Prigerson & Jacobs, 2001; Jacobs, 1999). Nevertheless, most studies are concentrated on adults (widow/widowers, grieving parents) but

not on children, on the one hand, or assessing PTSD and grief reactions separately, on the other hand.

6. Conclusion

This chapter overviewed the literature on bereavement and stressed the association of trauma and grief resulting in complicated grief. Consistent with existing data, it is evidenced that violent death, differently from natural death, can lead to complicated grief with regard to the tragic circumstances surrounding the death scenes. This reality is thought to be more delicate for young people traumatically bereaved by losing their birth parents and especially those lacking adult substitute. In addition to the age interfering with the cognitive ability to understand the death reality, the young people traumatically bereaved are confronted both to PTSD and grief impairments. The interface of the two difficulties exacerbates psychological distress resulting from the traumatic death.

Future studies should precise the nature of the trauma and grief association. This implies specific taxonomy of traumatic bereavement responses and appropriate assessment tools. With regard to clinical interventions, traumatically bereaved individuals should be treated first on their PTSD symptoms to engage in grieving process.

References

- APA. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington DC: American Psychiatric Association.
- Bacqué, M.-F. (1995). *Le deuil à vivre* (2nd ed.). Paris: Odile Jacob.
- Baker, J. E., Sedney, M. A., & Gross, E. (1992). Psychological Tasks for Bereaved Children. *American Journal of Orthopsychiatry*, 62(1), 105-116.
- Becker, E. (1973). *The denial of death*. New York: Free Press.
- Bowlby, J. (1959), Separation anxiety. *International Journal of Psycho-Analysts*, XLI, 1-25.
- Bowlby, J. (1960). Grief and mourning in infancy and early childhood. *Psychoanalytic Study of the Child*, 15, 99-112.
- Bowlby, J. (1984). *Attachement et perte. La perte, tristesse et dépression* (Vol. 3). Paris: PUF.
- Buchsbaum, B.C. (1987). Remembering a parent who has died: A developmental perspective. *Annual of Psychoanalysis*, 15, 99-112.
- Corr, C. A., Nabe, C. M., & Corr, D. M. (2000). *Death and dying, life and living*. Belmont, C.A: Wadsworth.
- Eth, S., & Pynoos, R. (1985). Interaction of trauma and grief in childhood. In S. Eth & R.S. Pynoos (Eds.), *Post-traumatic stress disorder in children* (p.171-183). Washington, DC: American Psychiatric Press.
- Grosseberg, S. H., & Crandall, L. (1978). Father loss and father absence in preschool children. *Clinical Social Work Journal*, 6(2), 123-134.
- Hetu, J-L (1989). *Psychologie du mourir et du deuil*. Montréal :Ed. du Méridien.
- Horowitz, F.D. (1996). Developmental perspectives on child and adolescent posttraumatic stress disorder. *Journal of School Psychology*, 34,189-191.

- Horowitz, M. (1986). *Stress response syndromes*. Northvale, NJ: Aronson.
- Jacobs, S. C. (1999). *Traumatic Grief: Diagnosis, Treatment, and Prevention*. Philadelphia: Brunner/Mazel.
- Kaminer, H., & Lavie, P. (1993). Sleep and dreams in well-adjusted and less adjusted Holocaust survivors. In M. Stroebe, W. Stroebe & R. O. Hansson (Eds.), *Handbook of bereavement: Theory, research, and intervention* (pp. 331-345). New York: Cambridge University Press.
- Kane, B. (1979). Children's concepts of death. *Journal of Genetic Psychology*, 134, 141-153.
- Kastenbaum, R. J. (1997). *Death, society and human experience* (7th Ed.). New York: Merrill.
- Klass, D., Silverman, P. R., & Nickman, S. L. (1996). *Continuing bonds: New understandings of grief*. Washington, D.C/ Taylor & Francis.
- Krueger, D. W. (1983). Childhood parent loss: Development impact and adult psychopathology. *American Journal of Psychotherapy*, 37(4), 582-592.
- Millay, E. St. V. (1969). Childhood is the kingdom where nobody dies. In Edna St. Vincent Millay collected lyrics (p.203). New York: Harper & Row. (Original work published 1934).
- Nader, K. O. (1997). Childhood traumatic loss, the interaction of trauma and grief. In C. R. Figley, B. E. Bride & N. Mazza (Eds.), *Death and trauma: The traumatology of grieving* (pp. 17-41). Washington, DC: Taylor & Francis.
- Prigerson, H. G., & Jacobs, S. C. (2001). Traumatic grief as a distinct disorder: a rationale, consensus criteria, and a preliminary empirical test. In M. S. Stroebe, R. O. Hansson, W. Stroebe & H. Schut (Eds.), *Handbook of bereavement research. Consequences, coping, and care* (pp. 613-647). Washington, DC: American Psychological Association.
- Raphael, B., & Martinek, N. (1997). Assessing traumatic bereavement and post-traumatic stress disorder. In J. P. Wilson, T. M. Keane (Eds.), *Assessing Psychological Trauma and PTSD*. New York: The Guilford Press.

- Simpson, M.A. (1997). Traumatic bereavement and death-related PTSD. In: C.R. Frigley, B.E. Bride & N. Mazza (Eds.). *Death and Trauma: The traumatology of grieving*. Washington: Taylor & Francis.
- Stroebe, M. & Schut, H. (1999). The dual process model of coping with bereavement: rationale and description. *Death studies*, 23,197-224.
- Stroebe, M. & Schut, H. (2001). Meaning making in the Dual Process Model. In R. Neimer (Ed.) *Meaning reconstruction and the experience of loss* (pp. 55-73). Washington: American Psychological Association Press.
- Stroebe, M. S. (1998). "New directions in bereavement research: exploration of gender differences." *Palliative Medicine* 12(1): 5-12.
- Stroebe, M., & Stroebe, W. (1987). *Bereavement and health. The psychological and physical consequences of paterner loss*. Cambridge, England: Cambridge University Press.
- Stroebe, M., Schut & Finkenauer, C., (2001). The Traumatization of Grief? A Conceptual Framework for understanding the Trauma-Bereavement interface. *Israelian Journal of Psychiatry & Related Sciences*. Vol.38, pp.185-201.
- Stroebe, M., van Son, M., Stroebe, W., Kleber, R., Schut, H., & van den Bout, J. (2000). On the classification and diagnosis of pathological grief. *Clinical Psychology Review*, 20(1), 57-75.
- Wass, H., & Stillon, J. (1988). *Dying in the lives of children*. In H. Wass, F. Berardo, & R. Neimeyer (Eds.), *Dying: Facing the facts* (pp. 201-228). Washington, DC/ Hemisphere.
- Webb, B. N. (2002). *Helping Bereaved Children: A handbook for practitioners (2nd ed.)*. New York: Guilford Press.
- Webb, N. B. (2000). The child and Death. In N. B. Weeb (Ed.), *Helping Bereaved Children. A Handbook for Practionners* (2nd ed., pp. 3 -18). New York: The Guilford Press.

- Weiss, R. S. (2002). Grief, Bonds, and Relationships. In M. S. Stroebe, R. O. Hansson, W. Stroebe & H. Schut (Eds.), *Handbook of Bereavement Research. Consequences, coping, and Care* (pp. 47-62). Washington, DC: American Psychological Association.
- Wolfelt, A. (1983). *Helping children cope with grief*. Muncie, In: Accelerated Development.
- Worden, J. W. (1991). *Grief counselling and grief therapy: A handbook for the mental health practitioner* (2nd ed.). New York: Springer.
- Yalom, I.D. (1980). *Existential psychotherapy*. New York: Basic Books
- Zech, E. (2006). *Psychologie du deuil. Impact et processus d'adaptation au décès d'un proche*. Belgique: Mardaga.

**PTSD prevalence and prediction among Adolescent Survivors of the 1994 genocide in
Rwanda**

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Running head: PTSD PREVALENCE IN RWANDA

Abstract

This study examines the prevalence of PTSD symptoms among child and adolescent survivors of the 1994 genocide in Rwanda. The sample consists of 232 secondary school students (56.9% boys) who were between 1 and 18 years old at the time of the genocide ($M_{\text{age}} = 7.97$, $SD = 3.23$). The sampling procedure excluded those who were born after the genocide and the children and adolescents of the 1959 returnees from neighbouring countries. Besides demographic information including age, gender, and current family situation (children and adolescents living with one of the parents: 40.1%, $N=93$; orphans in foster families: $N=18.5\%$, $N=43$; and Child-headed households (CHH): 40.5%, $N=94$), other measures included the Traumatic Exposure Checklist and the UCLA PTSD Reaction Index for the DSM IV (Adolescent version). Results indicate that 71.5% of the sample met all the DSM IV criteria for a PTSD diagnosis twelve years after the genocide. Contrary to age and gender, PTSD prevalence is associated with current family situation. Most of those presenting PTSD diagnosis are CHH (48.2%, $n=166$). With regard to prediction, results contrast with the well established PTSD prediction by the objective features of the traumatic event (17% of the variance explained by the model). It could be postulated that a large part of unexplained variance refers to interplay of additional factors and psychological mechanisms.

KEY WORDS: child, adolescents, PTSD, genocide, Rwanda

During the second half of the 20th century, despite the hope after the Holocaust that such horrors would not be repeated and the “*Never Again*” commitment of all nations; there has been mass violence within and between countries or groups differing in ethnicity, religion, political ideology and agenda, and power or privilege. The level of violence in many of these cases has been intense, for example in the former Yugoslavia, Sri Lanka, Rwanda and elsewhere (Staub, Pearlman, Gubin, & Hagengimana, 2005).

In 1994, Rwanda experienced an unprecedant genocide in which over a million Tutsis were killed by the extremist Hutu regime. A seven-state model of the long process of dehumanization that occurs in mass-scale genocides such as the Holocaust was documented by Mukimbiri (2005). “*These stages are : (i) definition of the target group; (ii) registration of the victims; (iii) designation of the victims; (iv) restrictions and confiscation of goods; (v) exclusion; (vi) systematic isolation; (vii) mass extermination*” (p.1). In addition to the killings that characterized the genocide, mostly machete, rape and other forms of violence and torture were committed against women. Quoting a 1996 report by the UN Special Rapporteur, Human Rights Watch (2004) reported that about 250.000 women and girls were raped and sexually tortured. Gender-based violence and sexual torture included individual rape; gang-rape; rape with sticks, guns or other objects; sexual enslavement, ; forced marriage; forced labor; and sexual mutilation. The perpetrators of this government-organized violence included members of the military, young men organized into paramilitary groups (such as Interahamwe militias and Hutu power groups), and ordinary people including neighbours and even family members in mixed families (Staub et al., 2005).

As an aftermath of the genocide, Rwanda has a very young population that includes important groups of orphans and vulnerable children who lost their parents in the genocide. Data from the last census of the population in Rwanda (February 2005) revealed that of a population of 8,128,553 inhabitants, 1,267,057 are orphans (loss of father, mother, or both parents). Approximately 1 child out of 5 lost his/her father, 1 child out of 25 lost his/her mother, 1 child out of 25 lost both parents, and 1 child out of 30 does not know whether his/her parents are still alive. The same figures showed that of 1,757,426 ordinary households counted by the census, 15,052 households are headed by children of less than 18 years old; these households are called Child-Headed Households (CHH). These CHH are mostly headed by boys (62.2%), with only about a third of them (32.8%) headed by girls. This phenomenon is relatively unique and new since children who lost both parents were placed under the responsibility of extended family members in the past. However, as a result of the number of adults who perished in the genocide, this sort of care is nearly impossible. Entire families were destroyed.

In comparison with natural disasters, it is assumed that the impact of man-made catastrophes is enormous and deleterious for the victims, especially for children. *Children's immature ability (cognitive, affective, and social integration) to comprehend the immediate and long-term effect of the event exposed to, their own injuries and exposure to harrowing events, traumatized or injured parents, loss of loved ones, disruption of daily routines and frightening images in the media make them among the most vulnerable members of affected communities* (Balaban, 2006). Current evidence is consistent with the assumption that traumatic events differ in nature and intensity, some being more overwhelming than others. In her distinction, Terr (1979) separates two types of events : Type I and Type II. Events classified under Type I are sudden and short in duration with typical symptoms, for example the fear after an accident is

solely related to the accident and events of the same kind. In this category are things such as natural disasters and motor vehicle accidents. Type II comprises prolonged and repeated events where the perceived intention to harm of a third party is crucial and central. All human-made disasters and violence such as domestic violence, sexual abuse and rape, war, ethnic cleansing and genocide are considered Type II traumas. Being exposed to these kinds of events may lead to a wide range of psychiatric and cognitive effects. The most pathological of these is Post-traumatic Stress Disorder (PTSD) (Cohen et al., 1998). Studies investigating and assessing the prevalence of PTSD estimated high rates of severe and chronic symptoms among children and adolescents exposed to war and human violence (Weine et al., 1995).

Likewise, the psychological impact of the genocide in Rwanda might be complex and lasting in that it profoundly frustrated the basic needs of these young adolescents: safety and security, guardianship and attachment, identity, a way of understanding the world, and spirituality. In a literature review, it is noteworthy that studies aiming at assessing and following-up psychological outcomes of the Rwandan genocide are almost non-existent and rudimentary; only few articles were retrieved using *Endnote* research software (Bolton, 2001; Dyregrov, Gupta, Gjestad, & Mukanoheli, 2000; Pham, Weinstein, & Longman, 2004). In the population of children and adolescents, rare published studies already show the precariousness of the mental health of Rwandan children who were confronted to the traumatic events in Rwanda. With a sample size of 133 children, aged between 9 and 17 years, Sydor & Philippot (1996) estimated that 24.1 % of these children meet all the diagnostic criteria of the PTSD according to the DSM-IV (APA, 1994), in the months following the genocide. Three years later, in her follow-up report with the Rwandan children victim of the 1994 genocide, Gupta (1999) observed the importance of cognitive intrusions (81%) and emotional distress (63%) associated with the events

experienced by these children during the genocide. Generally, the data from this study showed that children continually had harmful and overwhelming intrusive images, thoughts, and feelings two years after the events in spite of their efforts not to think about these events anymore. In terms of the symptoms of avoidance, the study estimated that 70% the children preferred to very often avoid any reminder of the genocide and 64% of them preferred not to talk about it (recall). With a total sample of 3030 children aged between 8 and 19 years, Dyregrov et al. (2000) compared children living in the community to those living in orphanages after the genocide. They found that children living in the community presented very high rates of the symptoms of intrusion and increased physiological arousal compared to children living in orphanages.

This brief review demonstrates the atrociousness of the genocide on its victims and some evidence for its long lasting psychological consequences. Such data also highlight the need for a follow-up study to monitor the development of the aftereffects of the genocide. In Rwanda, there are nowadays some indications that the psychological wounds of the genocide are still crucial and overwhelming for the survivors. Several schools are facing the phenomenon of collective emotional outburst, known in Rwanda as collective trauma, especially during the national mourning week, leading some of these institutions to close. As well, the rare clinical settings available, like the Center for Psychosocial Consulting of the Ministry of Health, are reporting an increased number of patients seeking psychological treatment and of suicide among young survivors. The objectives of this study are to assess (1) the prevalence of posttraumatic stress disorder (PTSD) symptoms and (2) the predictive power of the level of traumatic exposure among Rwandan children and adolescents who survived to the genocide twelve years ago. We hypothesized that traumas from the genocide predict persistent PTSD. It was also expected that PTSD prevalence is a function of age, gender and family situation.

1. Method

1.1. Population and sample

This study targeted children and adolescents who were exposed to genocide in Rwanda. All participants were randomly recruited from the secondary schools of *Collège Imena de Runyinya*, *Ecole Agri-Vétérinaire Couture*, *Groupe scolaire des Parents Butare* and the non-governmental organization (NGO) *UYISENGA N'MANZI*. In addition to sociodemographic information (age, gender and family situation), participants were assessed on their trauma exposure and resulting PTSD prevalence.

Inclusion criteria comprise being aged between 1-18 years and having lived in Rwanda at the time of genocide. Given the nationwide scope of the genocide, all children who were living in Rwanda during the genocide were assumed to have been directly exposed to the horrific events of the genocide. Furthermore, the genocide being primarily focused on Tutsis as the targeted social group, we assumed that Tutsi children and adolescents who survived to the genocide were more vulnerable than others to a psychopathological outcome. Thus, only Tutsi survivors were considered in this research project. In line with the assumption of direct traumatic exposure, all participants were born before 1994 and were in Rwanda during the genocide. To fulfill these criteria, participants were recruited through the AERG (Association des Elèves Rescapés du Génocide [association of the students survivors of the genocide]) sections operating in the above-mentioned secondary schools and NGO. Participants were told that their participation was voluntary and that they could stop at any time if they felt too uncomfortable to continue the task.

1.2. Research team assistants

In order to contact as many participants as possible, research assistants were recruited to collect the data. Two students completing their Bachelor's degree in Clinical Psychology at the National University of Rwanda were hired for the task. Research assistants were briefed on the content of the measurement tools and the questionnaire administration procedure. Training sessions were organized and aimed at discussing some interview practice precautions, especially when working with vulnerable children and adolescents. Most importantly, since they themselves were survivors and thus affected by the genocide, these training sessions were also oriented to prevent any interference of the assistants' own experience of the genocide to the data collection process. Additional debriefing sessions were organized after each data collection session and in any instance in which they were needed. The psychologist from the organization working with the CHH was also involved in the process of data collecting from children cared for by the association.

1.3. Procedure

Prior to data collection, contacts and meetings were organized with the Heads of schools and coordinators of the association working with orphans and vulnerable children, especially CHH. These preliminary contacts were oriented to validate the objectives of the research and to involve the caretaker's association and school authorities in the research process. These meetings immediately revealed that school leaders were facing crucial mental health problems of the students exhibiting emotional and behavioral problems such as poor school attendance and performance, alcohol and drug abuse as well as several cases of antisocial behavior among students.

Moreover, in pre-testing the protocol with survivors living in Belgium, we found that the administration of the questionnaire is painful to participants as it involves recalling traumatic events. With regard to the specific group vulnerability, and consistent with the ethical principles of informed consent and harm avoidance, progressive exposure to the recollection of events was adopted : an average of two to three hours preliminary sessions were organized to explain the purpose and procedure of the study. Furthermore, participants were briefed on basic trauma psychoeducation to enable them to deal with emotions that could be induced by the assessment. At the end of this process, participants were free to register for the study or not. From the 250 survivors initially contacted, 239 accepted to take part in the study (95.6 %).

The administration of the questionnaire followed a standard procedure: (1) welcoming the participants, (2) reviewing the purpose and the objectives of the study, (3) explaining the questionnaires rating scales, (4) distributing copies of the questionnaire packets and getting them completed, and (5) thanking participants for their participation followed by a short debriefing. Questionnaires were completed while researchers were present to create a supportive presence and to be proactive in dealing with emotional outbursts during the session. All participants were interviewed individually at their respective school or association and the interview was in Kinyarwanda to ensure accurate understanding of the questions. The research team assistants were instructed to offer more attention and emotional support to any participant who appeared excessively distressed by the task. All participants were also told that if they felt uncomfortable at any point of the assessment they could stop without having given any explanation. Seven individuals stopped their questionnaire completion because of being aroused by the exercise. They reported important anxiety as they were re-experiencing the genocide and intrusive recollections, extreme grief when recalling the number and nature of the relatives. Appropriate

medical treatment was offered by the University Hospital to those who required it. In total, 232 participants completed the entire protocol.

1.4. Measures and instruments

The selection of instruments relied on the effectiveness of the instruments developed and used previously in Rwanda (Dyregrov et al, 2000) and on the psychometric properties ascertained by a literature review (Balaban, 2006). Thus, to assess the level of traumatic exposure and the presence of PTSD symptoms, the traumas checklist adapted by Dyregrov et al. (2000) and the UCLA PTSD index, adolescent version (Pynoos et al., 1998) were translated from English to Kinyarwanda (participants' maternal language). Demographic information was also collected for further statistical analysis: age during and after the genocide, gender, and family situation (children living with one of their parents, orphans living in foster family, or child-headed household).

1.4.1. Traumatic exposure checklist

The traumatic exposure assessment relied on the DSM IV (APA, 1994) criteria for PTSD diagnosis, criteria A(1), stating that a traumatic event is the one in which *“the person experienced, witnessed, or was confronted with an events or events actual or threatened death or serious injury, or a threat to the physical integrity of self or others”*.

Consistent with that criterion, the *“Traumatic Exposure checklist”* (Dyregrov et al., 2000) served to assess the genocide traumatic history of our informants. It consists of a 41-item questionnaire ($\alpha = .76$) with a “Yes” or “No” dichotomous scale evaluating the extent of

traumatic exposure. The questions were labelled as follows: *“During the genocide perpetrated in Rwanda in 1994, people experienced one or more stressful and traumatic events. Among the events listed hereafter, you may have experienced one or more of them. We are asking you to choose “Yes” for an event you experienced and “No” for the one you didn’t experience. In case you experienced any other event which is not on the suggested list, don’t hesitate to chose “Other” and describe the additional event.”* The questionnaire includes items assessing different types of traumatic events and distinguishes between violent events inflicted to the relatives and witnessed by the child (1 “exposure to violence”, 3 items, $\alpha = .82$), violence inflicted to the child and threatening him/her with death (“threat of dying”, 5 items, $\alpha = .54$), and relatives killed during the genocide (“loss of family members”, 7 items, $\alpha = .62$). For further statistical analysis, three indexes were created by summing the number of events experiences in each category.

1.4.2. UCLA PTSD Reaction Index for DSM IV

The UCLA PTSD index (Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) is a brief screening instrument that assesses the traumatic exposure and the presence of DSM IV PTSD symptoms. The instrument comprises three versions adapted to various age groups: children (aged from 7 to 12 years) and adolescents (13 years and older), and an adult version. This study used the adolescent version. Being a revised version of the widely used Child PTSD Reaction (CPTSD-RI; Nader et al., 1990), the UCLA PTSD index is recognized to be appropriate for evaluating children and adolescents across a wide variety of disasters and emergency contexts, with an ability to capture both a history of traumatic exposure and symptoms consistent with PTSD (Balaban, 2006; Strand, Sarmiento, & Pasquale, 2005).

Two sections of the UCLA PTSD index (Adolescent version) were translated into the native language of the participants (Kinyarwanda) and were used to screen the DSM IV Criterion A (subjective experience during or just after the traumatic event including intense fear, helplessness, horror, and agitated or disorganized behaviour) and the frequency of the PTSD symptoms (Criteria B, C, D). The first section (9 questions) was about the respondents' feelings "*during or right after the bad thing that happened*". The respondents were asked to answer by "Yes", "No" or "Don't know" depending on their facility in recalling the events they were exposed to during the genocide.

The second section contains 25 questions rated on a 4-point Likert scale including 0= none of the times means not at all (in the past month); 1= little of the time means about "*two times*" (in the past month); 2=some of the times means about "*once a week*" (in the past month); 3=much of the time means "*two or three days of a week*" (in the past month); 4=most of the time means "*almost every day*" (in the past month). The questionnaire comprises items assessing symptoms of (a) intrusion ($\alpha=.62$, 7 items), (b) avoidance ($\alpha=.70$, 7 items), (c) arousal ($\alpha=.69$, 5 items), and (d) PTSD associated features ($\alpha=.73$, 8 items). This last component involves the feeling of trauma-guilt, a sense of re-experiencing the trauma that differs from a flashback, feelings of solitude and emptiness, etc.

Two types of PTSD scores were calculated from each index. An overall PTSD severity score was calculated by summing scores of all questions that corresponded to the DSM-IV PTSD symptoms. In addition, three separate PTSD severity subscores were calculated for criterion B, C, and D symptoms by summing scores of all questions assessing the symptoms belonging to each

category. The psychometric properties of the UCLA PTSD Kinyarwanda version were good: the internal consistency observed in this study ($\alpha=.85$, 17 items) does not differ from the ones observed in other studies (Balaban, 2006).

2. Results

2.1. Socio-demographic characteristics of the sample

Roughly 12 years after the genocide, a sample of 232 children and adolescent survivors of the genocide (56.9% boys), aged between 1 and 18 years ($M=7.97$, $SD=3.23$) at the time of the genocide (50.7% seven years old and above), responded to a package of questionnaires assessing traumatic exposure and associated PTSD symptoms. Regarding their family situation, the sample comprised (a) children and adolescents living with one parent, the other having been murdered during the genocide ($N=93$, 40.1%), orphans living with a foster family ($N=43$, 18.5%) and child-headed households (CHH; $N=94$, 40.5%).

2.2. Traumatic exposure

Data from this study reveal that children and adolescents who survived from the genocide in Rwanda experienced multiple traumatic events (See Table 1). According to the nature of the events exposed to, traumatic events were grouped into three categories namely (1) exposure violence, (2) threat of dying and (3) loss of relatives. For further analysis, mean scores are calculated by summing items related to each category. Correlation and comparing means analysis (independent-test, ANOVA) were computed to predict PTSD prevalence over traumatic exposure variables.

Table 1

Experienced Traumatic Events during the 1994 genocide in Rwanda (N=232)

Type of traumatic events	Frequencies (YES answered)	%
<i>Do you remember your experience of genocide?</i>	224	96.6
Exposure/Witness of violence		
Torture of parents and relatives	186	82.7
Death/murder of parents/relatives	189	84
Killings with machetes (<i>arme blanche</i>)	206	88.8
Gun fire and rifle firing (fusillades)	169	72.8
Rape and sexual violence	144	62.1
Raping and sexual violence against relatives	75	32.3
Parent	31	13.4
Sister/brother	23	9.9
Others (aunt, cousins, etc)	16	6.9
Mass killings (in churches and public places)	176	75.9
Dead /mutilated/wounded bodies	184	79.3
Beating and moaning of close relatives	150	64.7
Children participating in the massacres	157	67.7
Dogs eating/devouring dead bodies	174	75
Looting and family property destruction	179	77.2
Other malicious acts and behaviours	162	69.8
Threat of dying		
Beating and wounds	80	34.5
Torture and humiliation	136	58.6
Forcing to kill and/or torturing a relative	35	15.1
Terror and threatening to death	180	77.6
Rape and sexual violence	20	8.6
- raped by a known person	14	6

Table 1 *Continued*

Type of traumatic events	Frequencies	%
	(YES answered)	
Looses of family members /bereavement		
<i>Have you lost any relative due to genocide?</i>	227	97.8
Father	174	75.0
Mother	130	56.0
Brothers and sisters	195	84.1
Aunts/uncles	198	85.3
Cousins	188	81.0
Grand father/mother	129	55.5
Others	101	43.5
<i>How did you learn about the death of your relatives?</i>		
Being with them when murdered/killed	122	52.6
Discovering the dead bodies from my hiding place	75	32.3
Learning from other relatives and friends	91	39.2
National ceremonies (exhumation and burial of victims)	96	41.4
GACACA testimonies	74	31.9
The lack of evidence that they are still alive	83	35.8
Other means	27	11.6

2.2.1. *Exposure to violence*

As presented in Table 1, exposure to violence variable included items related to witnessing violence like mass killing, torture or dead versus mutilated corpses. The social context of the genocide renders its experience overwhelming for the surviving children and adolescents in being exposed to strong sensory impressions (visual, auditory, olfactory) of the genocide.

Correlation analysis tested the association of exposure to violence, as dependent, and sociodemographic variables. Contrary to gender and family situation, the exposure to violence is positively associated with age, $r(227)=.32$, $p<.001$. Given that data are collected twelve years later, the interpretation of this statistic should be made with caution. Probably, that finding is congruent with the assumption that participants recall the traumatic events they witnessed as function of their age. Meaning that those who are too young recall less memories of the violence they witnessed.

2.2.2. *Threat of dying*

Additionally to the violence witnessed, participants were directly victimized and threatened to death. Like adults, children and adolescents were also exposed to terrible violence and threatened to death by the killers. Genocide being defined as a total or partial elimination of an ethnic, racial, or religious group, and the hatred and resolve to decimate the entire group; its perpetrators didn't shield even young children. As it can be read in Table 1, young individuals were submitted to severe threat including torture, beat, even rape and sexual abuse by a known adult.

Comparing the amount of threats of dying to sociodemographic variables, unlike gender ($t(230)=1.35$, $p>.05$), threat of dying is associated with age and current family situation, $r(227)=.20$, $p<.01$ and $F(2,227)=10.31$, $p<.001$. Children and adolescents heading households (CHH), $M=2.37$, $SD=1.95$, were more greatly harmed in comparison with orphans living in foster families, $M=1.70$, $SD=.83$, and those remaining with one of their parents (generally their mother), $M=1.63$, $SD=.99$.

2.2.3. *Loss of family members*

The third category of the traumatic exposure evaluated was the loss of family members as a result from of the genocide. Responding to the question “Did you loose any relative as the fact of the genocide”, “Yes” response frequency demonstrates that most of the respondents have lost at least one of their family members (97.8%). Amount of losses ANOVA demonstrates that the number of relatives killed during the genocide is significantly associated with current family situation, $F(2,227)=18.57, p<.001$. CHH seem to be massively bereaved, $[M=5.54, SD=1.41]$, as compared to survivors living with one their parents and orphans in foster family, $M=4.18(SD=1.67)$, $M=5.16(SD=1.55)$, respectively. However, CHH and orphans in foster families don’t differ on their total number of losses encountered, $t(135)=-1.40, p>.05$.

2.3. PTSD symptoms prevalence rate

2.3.1. *Descriptive statistics*

Means (M), standard deviations (SD), and Cronbach’s alphas traumatic exposure (predictor variable) and PTSD indices (dependent) are presented in Table 2. All participants ($N=232$) were exposed to one or more traumatic events (criteria A of DSM-IV PTSD). Further, mean score on PTSD scale indicates how intense the posttraumatic symptoms are.

2.3.2. *PTSD prevalence rate*

Estimating PTSD prevalence rate, analysis determined whether participants endorsed the total number of symptoms from criterion B (Intrusion), C (Avoidance/numbness), and D (Hyperarousal) required for a DSM-IV PTSD diagnosis. To be of positive PTSD diagnosis, the diagnostic criteria require that the individual exposed to one or more traumatic events (criterion A1-2) present one or more intrusion symptoms; three or more avoidance/numbness symptoms

and two or more symptoms related to hyperarousal. To enable this task, the 4-point Likert-type scale was reduced to a dichotomous scale. The minimum score reported for each item to be counted as a likely PTSD symptom was 2 (“*once a week*”).

Table 2 Descriptive statistics of predictor and dependent variables considered (N=232)

	Items	Min	Max	Mean	SD	Skewness	Cronbach's Alpha
Traumatic exposure							
Violence	12	0	11	8.06	2.76	-1.10	.81
Threat	5	0	5	1.94	1.23	.27	.54
Losses	7	0	7	4.92	1.67	-.69	.60
PTSD Symptoms							
Intrusion	5	0	4	2.04	.77	-.07	.62
Avoidance	7	0	4	2.00	.79	-.08	.70
Hyperarousal	5	0	4	1.85	.83	.01	.69
Overall score	17	0	4	1.99	.69	.04	.86

Checking the current prevalence rate of PTSD, a considerable portion of the participants (71.5%; 166 of the sample) met full DSM-IV criteria. The mean *number* of PTSD symptoms endorsed was 11 (SD=4.12, theoretical range=0-17). Statistics reported in Table 3 show how overwhelming and lasting PTSD symptoms among subjects meeting the PTSD diagnosis. As it can be seen in the table, more than one half of participants display all the symptoms (17 symptoms) twelve years later.

Table 3

Frequencies (%) of severity for PTSD symptoms within subjects meeting all DSM IV criteria (N=166)

	n (%)
<i>Re-experiencing cluster (B criteria)</i>	
B1 Recurrent distressing memories of the event	134 (80.7)
B2 Recurrent dreams of the event and nightmares	115 (69.3)
B3 Flashback episodes, where the event seems to be recurring	100 (60.2)
B4 Upset when reminded of the genocide	148 (89.2)
B5 Bodily reactions to situations that remind of the traumatic event	124 (74.7)
<i>Avoidance cluster (C criteria)</i>	
C1 Avoiding discussion, thoughts of the genocide	115 (69.3)
C2 Avoiding genocide reminders	138 (83.1)
C3 Amnesia	150 (90.4)
C4 Decreased interest in activities	125 (75.3)
C5 Feeling cut off from others	110 (66.3)
C6 Feeling numb	119 (71.7)
C7 Feeling future is unclear	151 (91.0)
<i>Hyper arousal cluster (D criteria)</i>	
D1 Sleep disturbance	109 (65.7)
D2 Irritability	133 (80.1)
D3 Decreased concentration	116 (69.9)
D4 Being watchful or on guard	135 (81.3)
D5 Reactivity to war reminder (being nervous/frightened/startled)	122 (73.5)

2.3.3. *The severity of post-traumatic distress among participants meeting DSM IV criteria*

Table 4 presents descriptive statistics of PTSD diagnosis. Considering the frequency rating scale referred to in the assessment (4-point scale), overall mean score on PTSD scale ($M=2.28$, $SD=.52$) indicates that PTSD symptoms are displayed at least once a week. Considering that this study is done 12 years after the genocide, such statistics reveal high and severe persistent PTSD symptoms in this population.

Table 4

Mean (M) and Standard deviations (SD) for the total sample (N=232) and the subjects meeting the DSM IV criteria (N=166)

	All subjects (N=232)				Subjects with PTSD (n=166)			
	Min	Max	M	SD	Min	Max	M	SD
PTSD Symptoms								
Intrusion	.20	4.00	2.03	.77	.80	4.00	2.27	.67
Avoidance	.00	3.83	1.94	.81	1.00	3.83	2.25	.64
Arousal	.00	4.00	2.00	.77	1.17	4.00	2.31	.58
Overall score	.18	3.65	1.99	.69	1.24	3.65	2.28	.52

2.3.4. *PTSD prevalence as a function of age, gender and family situation (N=166)*

Table 5 results are related to PTSD variance as a function of age, gender and current family situation. Correlating the mean score on PTSD scale to age, non significant association is observed. Likewise, the independent t -test didn't reveal any significant difference related to gender, $t(164)=-.19$, $p=.848$. However, an analysis of variance (ANOVA) revealed a linear effect of the current family situation on the PTSD symptoms vulnerability, $F(1,162)=4.68$, $p<.01$.

Compared to their counterparts living with one of the parents, orphans in foster family and CHH report significant higher rates of PTSD symptoms, $t(83)=-2.54, p<.05$; $t(131)=-2.70, p<.01$ respectively. No significant differences were observed when comparing orphans living in foster families with CHH in displaying PTSD symptoms, $t(110)=.83, p>.05$. Out of 94 CHH who participated in the assessment, 80 (85.1%) met full DSM IV criteria for PTSD versus 74.4% (N=43) for the orphans in foster families and 57% (N=93) for the children and adolescents living with a parent. Considering the total cases meeting DSM-IV criteria for PTSD diagnosis (N=166), it appears that the largest number meeting PTSD diagnosis are CHH (48.2%, N=80).

Definitely, these results suggest that young traumatized and with birth parent bereavement are at higher risk factor for persistent PTSD symptoms in Rwanda. Indeed, lacking guardianship and protection undermines the sense of safety and security that is important to recover from PTSD.

2.4. Prediction of PTSD symptoms by the traumatic exposure variables

2.4.1. *Correlating PTSD score and traumatic variables (N=232)*

Table 6 presents bivariate correlations between PTSD symptoms (as a dependent) and traumatic exposure variables (as predictor) including (a) Exposure to violence, (b) exposure to threat of dying and (c) Loss of relatives. PTSD prevalence is significantly correlated with all predictor variables. However, with regard to partial correlations, PTSD is more associated with the threat of dying ($r(228)=.25, p<.001$) than witnessing violence ($r(228)=.15, p<.05$) and the loss of relatives ($r(228)=.15, p<.01$). These findings indicate that being exposed to traumatic events as victim is strongly associated with more severe PTSD than witnessing the violence.

Table 5 Mean (M) and Standard deviations (SD) for the total sample (N=232) and the subjects meeting the DSM IV criteria (N=166)

	Age ^a	Gender		<i>t</i> -test	Family situation ^b			ANOVA
		Boys	Girls		With Parent	Foster family	CHH	
PTSD symptoms		M(SD)	M(SD)		M(SD)	M(SD)	M(SD)	
Intrusion	-.10	2.26(.69)	2.30(.64)	-.424	2.26(.60)	2.42(.81)	2.23(.65)	.928
Avoidance	.09	2.28(.61)	2.35(.66)	-.716	2.08(.66)	2.54(.72)	2.37(.54)	6.44**
Arousal	.03	2.20(.63)	2.15(.69)	.462	1.97(.65)	2.21(.79)	2.30(.58)	4.14*
Overall score	.02	2.28(.51)	2.29(.54)	-.192	2.11(.48)	2.43(.66)	2.34(.46)	4.68**

Note: ^a Correlation analysis tested the association of age and PTSD scores and subscores. * $p < .05$, ** $p < .01$

Table 6 Bivariate correlations between PTSD score and predictor variables (N=232)

	1	2	3	4
Exposure to violence	-	.37***	.22***	.28***
Exposure to threat		-	.22***	.34***
Loss of relatives			-	.24***
Overall PTSD score				-

Note: *** $p < .001$

2.4.2. Incremental prediction of PTSD symptoms by the amount of traumatic events exposure (N=232)

A multiple regression analysis tested the relative contribution of each of the independent variables (exposure to violence, threat of dying and number of family members lost/killed) in predicting the frequency of PTSD symptoms as a dependent variable.

Table 7

Summary of the Multiple Hierarchical Regression Analysis for independent variables predicting PTSD symptoms (N=232).

Variable	B	SEB	β	Sig.
Step 1 : Linear (Enter)				
Exposure to violence	.39	.01	.15	.019
Threat of dying	.14	.03	.25	.000
Number of family members killed	.06	.02	.15	.016
Step 2 : Order (Stepwise Model)				
Threat of dying	.19	.03	.34	.000
Threat of dying	.17	.03	.30	.000
Number of family members killed	.07	.02	.17	.006
Threat of dying	.14	.03	.25	.000
Number of family members killed	.06	.02	.15	.016
Exposure to violence	.03	.01	.15	.019

Note: $R^2 = .17$ for step 1, $\Delta R^2 = .16$ for step.2 ($p < .05$).

In a first step, all traumatic events that correlated with PTSD diagnosis were added to the equation: exposure to violence, threat of dying, and the loss of family members. The linear regression model (Enter method) indicated a significant effect of the predictor on PTSD diagnosis

[$R=.41$, $F(3,228) = 15.65$, $p < .001$]. However, the overall model explained about 17% of the variance.

In the second step, the variables were included in a stepwise model to assess the best predictor and analyse the incremental prediction of predictor variables over PTSD prevalence. This task did not substantially increase nor did it decrease the accuracy of prediction, ($R_{adj} = .16$), instead it indicated a significant incremental effect of all variables considered in the analysis in predicting a PTSD diagnosis. On the other hand, although the findings presented in Table 7 suggest that all variables significantly predict PTSD symptoms (all $p < .05$), the threat of dying is shown to be the best predictor ($\beta = .34$, $p < .001$).

2.4.3. *Accounting for the influence of the reaction at the traumatic events exposure on the PTSD symptoms prediction*

People's reaction (intense fear and the feeling of helplessness and hopelessness) to traumatic events exposure has been demonstrated to play a key role in the onset of PTSD symptoms (A2 DSM IV criteria for PTSD). Cases meeting PTSD diagnosis criteria were selected ($N=166$) and assessed for a mediation effect of criteria A2 of the DSM IV in predicting PTSD. Mediation analysis relied on Baron & Kenny (1986) model describing the mediation of a third variable (mediator) and the indirect effect of predictor variables in predicting the outcome.

According to Baron & Kenny (1986), there are four main steps to mediation. First, we tested whether the independent variables (VI) are significantly related the mediator (Step 1) and the dependent variable (VD) (Step 2). Next, we tested whether the mediator was significantly related to the dependent variable (Step 3), and whether the effect of the IV on the DV is reduced

or absent when controlling for the mediator (Step 4). If this effect is reduced this would be an evidence for a partial mediation and if the relationship between the two variables disappears this would be an evidence for full mediation. Finally a Sobel's test was performed to determine the extent of the mediation that occurred (Preacher & Leonardelli, 2003).

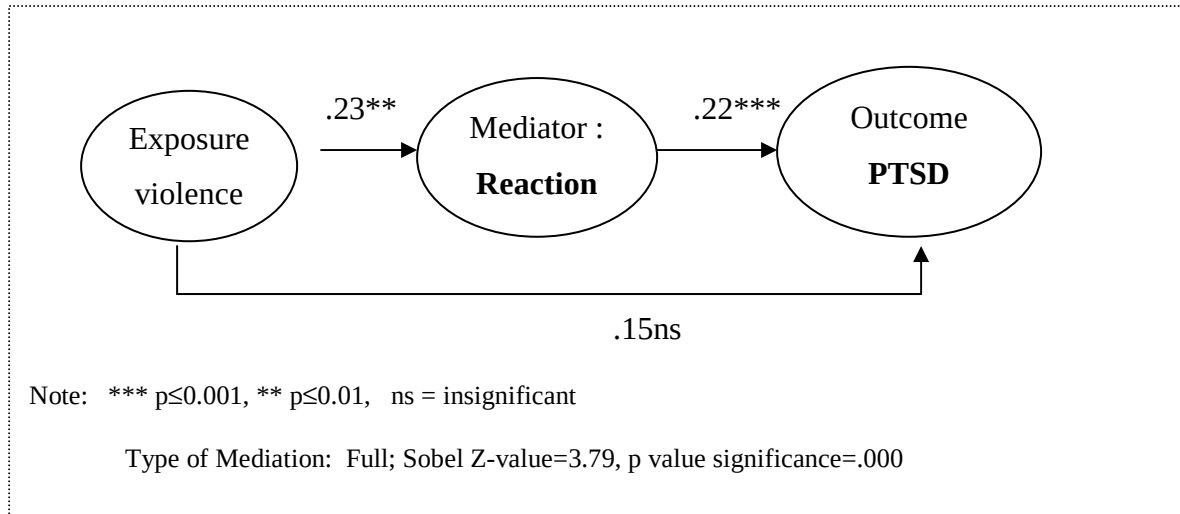


Figure 1 Mediating role of reaction in predicting PTSD by the exposure to violence

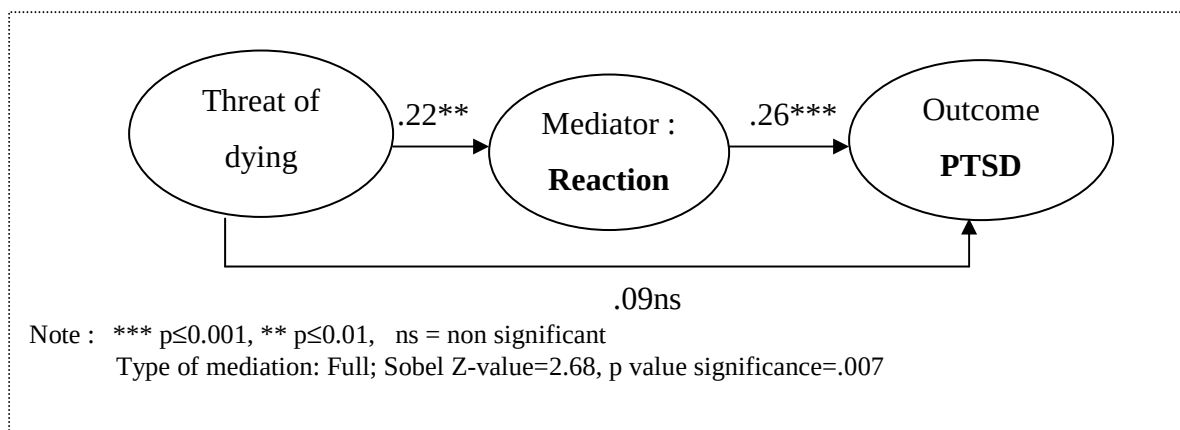


Figure 2 Mediating role of reaction in predicting PTSD by the threat of dying

Correlation analyses demonstrate significant relationship between the reaction to the traumatic events (mediator) and the exposure to violence variable (predictor), the threat of dying variable (predictor) and PTSD score (dependent); $r(166)=.38, p<.001$, $r(166)=.22, p<.01$, and $r(166)=.28, p<.001$. Given the satisfaction to the correlation condition, the analysis performed paths between considered variables and Z-values calculated.

For the two independent variables considered (exposure to violence and the threat of dying), the Sobel's test (Z-value) identified a significant mediation (p-value less than .05) of participants' reaction in predicting the development of PTSD symptoms ($Z=3.79, p<.01$; $Z=2.68, p<.01$, respectively). Both correlations between independent variables and outcome were reduced to non-significance, indicating that participants' reaction to traumatic events fully mediates the relationship between independent variables and the later onset of PTSD (See Figures 1 and 2).

3. Discussion

With a population of young genocide survivors in Rwanda, this study was aimed at assessing traumatic exposure of the genocide and associated PTSD prevalence rate. Further, the study assessed the association of PTSD and age, gender and the post-genocide family situation. We expected that participants were exposed to severe and multiple traumas predicting persistent PTSD. Also, we postulated that PTSD prevalence is function of the age (at the genocide exposure), gender and family situation.

As expected, our findings indicate a wide range of traumatic events survivors were exposed. Given the social context, traumatic experiences from the genocide against Tutsi in

Rwanda are catastrophic and overwhelming. Like adults, young survivors were exposed to strong visual, auditory and olfactory sensory impressions (see Table 1). In fact, unlike the Holocaust, the genocide committed in Rwanda did not take place in concentration and extermination camps. The most gruesome scenes unfolded in the social context of everyday life. Victims were slaughtered on their hills, in their houses, their fields, and other public places like schools, churches, stadium, communal offices, etc. Also, victims were not exterminated by modern weapon or any other mass extermination techniques such as gas chambers or crematoria as was the sinister fate of the Jews. Most of the victims were killed with machetes and other kind of white weapons, some times after a long suffering. Survivors witnessed all that relative suffering.

Further, perpetrators and killers were neighbours, godparents, priests, teachers, mayors; in other words those with whom the victim had established social ties. Being victims of that kind of violent crime, witnessing such overwhelming violence and knowing the perpetrators are factors reported to account for durable and severe PTSD (Wohlfarth, Winkel, van den Brint; 2002).

Considering that this study is carried out 12 years after the genocide, the reported PTSD prevalence of 71.5% (N=232) is impressively high. As such, that prevalence indicates clear concerns about the psychological impact of the genocide on its survivors, especially among young adolescents. On the other side, findings are congruent with previous studies reporting high levels of PTSD prevalence due to political violence (Thabet et al, 2001, 2002, 2004, 2006). Similarly, it is estimated that up to 74% of Croatian children were at risk for developing severe PTSD following the war in former Yugoslavia (Kuterovac, Dyregrov, & Stuvland, 1994). With regard to the fewest existing studies on psychological impact of the genocide in Rwanda, especially on young survivors, observed prevalence rate in this study is merely close to Gupta,

Dyregrov, Gjestad, and Mukanoheli (1996). Two years after the genocide, 79% of Rwandan children were reported to be at risk for developing PTSD. Therefore, the prevalence rate reported from this study, and given the time elapsed from Dyregrov et al. (2000) findings; it is evident that PTSD distress is still present within this population.

As far as socio-demographic variables are concerned, PTSD is related to family situation rather to age and gender. Orphans in foster families and CHH are reporting high rate of PTSD symptoms. Such figures suggest that family and social vulnerability constitute higher risk factors rather than subjective factors (age and gender) to develop PTSD in Rwanda. Given that these two high risky groups are constituted by totally orphans, the combination of the amount of traumas and bereavement is to exacerbate the disorder. Although following mass traumas young survivors are also bereaved, little studies have evaluated grief reaction in conjunction with PTSD syndrome (Smith, Perrin, Yule, Hacam, & Stuvland, 2002).

With regard to the prediction of PTSD, all considered predictors are with significant effect. Indeed, amount of studies demonstrated the contribution that compared to peacetime disasters, stressors during community violence are massive, repeated, diverse and chronic including violent death of a parent and relatives, witnessing mass killings, bombing and shelling (Smith, et al., 2002). Such studies have evidenced significant relationship between the amount of these kinds of traumatic experiences and psychological outcome, generally PTSD (Chimienti, Nasr, & Khalifeh, 1989; Gupta et al., 1996). In line with Gupta et al. (1996), our results demonstrated that the best exposure predictor of PTSD outcome is the perceived direct life threat. As reported in else groups of populations, the threat to survival is significantly related to PTSD symptoms across different cultures (Smith, et al., 2002). With the mediation analysis, the

conditioned anxiety and the learned feelings of fear, helpless and hopeless fully mediate the indirect effect of predictor on post-traumatic symptomatology.

Limits and future perspectives

Although significant effect of predictors on the outcome was found, the variance in PTSD symptoms explained by the traumatic exposure variables is very small. This fact underscores the need to assess the interplay of additional factors involved in the onset and development of the disorder.

Further, traumatic experiences evoked in this study are recalled 12 years after the genocide. Considering the age at the exposure, it remains unclear if these trauma memories are real personal experience recollection or a construction from adult stories and social influence through national ceremonies of genocide commemoration and the Gacaca trials which reveal hard truths of violence. Consistent with existing data, memory of traumatic experience is more clear and complete when it is personally remembered than when events are known from other sources such as parent stories (Berliner, Hayman, Thomas, & Fitzgerald, 2003). Furthermore, general autobiographical memories are reported to be with poor psychological outcomes. Independently from age, deficit in retrieving specific trauma memories seem to be relevant to traumatic exposure and may affect PTSD outcome. Future studies should assess the mechanisms by which such incomplete memories of the genocide are retrieved and processed.

References

- APA. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington DC: American Psychiatric Association.
- Balaban, V. (2006). Psychological assessment of children in disasters and emergencies. *Disasters*, 30(2), 178-198.
- Berliner, L., Hyman, I., Thomas, A., & Fitzgerald, M. (2003). Children's memory for trauma and positive experiences. *Journal of Traumatic Stress*, 16(3), 229-236.
- Bolton, P. (2001). Local perceptions of the mental health effects of the Rwandan genocide. *Journal of Nervous and Mental Disease*, 189(4), 243-248.
- Chimienti, G., Nasr, J. A., & Khalifeh, I. (1989). Childrens Reactions to War-Related Stress - Affective Symptoms and Behavior Problems. *Social Psychiatry and Psychiatric Epidemiology*, 24(6), 282-287.
- Cohen, J. A., Bernet, W., Dunne, J. E., Adair, M., Arnold, V., Benson, R. S., et al. (1998). Practice parameters for the assessment and treatment of children and adolescents with posttraumatic stress disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(10), 4S-26S.
- Dyregrov, A., Gupta, L., Gjestad, R., & Mukanoheli, E. (2000). Trauma exposure and psychological reactions to genocide among Rwandan children. *Journal of Traumatic Stress*, 13(1), 3-21.
- Gupta, L., Dyregrov, A., Gjestad, R., & Mukanoheli, E. (1996). *Trauma, exposure, and psychological reactions to genocide among Rwandan refugees*. Paper presented at the 12th annual convention of the International Society for Traumatic Stress Studies, San Francisco, CA.

- Gupta, L. (1999). Follow-up survey of Rwandan children's reactions to war related violence from the 1994 genocide. Revised Report. *UNICEF Evalaution Division*, 1-28.
- Human Rights Watch (2004). *Struggling to survive: Barriers to justice for rape victims in Rwanda* (No. 10 (A), Vol. 16).
- Kuterovac, G., Dyregrov, A., & Stuvland, R. (1994). Children in war: A silent majority under stress. *British Journal of Medical Psychology*, 67, 363–375.
- Mukimbiri, J. (2005). The seven stages of the Rwandan genocide. *Journal of International Criminal Justice*, 3, 1-14.
- Pham, P. N., Weinstein, H. M., & Longman, T. (2004). Trauma and PTSD symptoms in Rwanda - Implications for attitudes toward justice and reconciliation. *Jama-Journal of the American Medical Association*, 292(5), 602-612.
- Preacher, K. J., & Leonardelli, G. J. (2003). Calculation for the Sobel Test: an interactive calculation tool for mediation test., retrieved in September 2006, from <http://www.psych.ku.edu/preacher/sobel/sobel.htm>.
- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The UCLA PTSD Reaction Index for DSM IV (Adolescent version)*. Los Angeles: UCLA Trauma Psychiatry Service.
- Smith, P., Perrin, S., Yule, W., Hacam, B., & Stuvland, R. (2002). War exposure among children from Bosnia-Herzegovina: Psychological adjustment in a community sample. *Journal of Traumatic Stress*, 15(2), 147-156.
- Staub, E., Pearlman, L. A., Gubin, A., & Hagengimana, A. (2005). Healing, reconciliation, forgiving and the prevention of violence after genocide or mass killing: An intervention and its experimental evaluation in Rwanda. *Journal of Social and Clinical Psychology*, 24(3), 297-334.

- Strand, V. C., Sarmiento, T. L., & Pasquale, L. E. (2005). Assessment and screening tools for trauma in children and adolescents - A review. *Trauma Violence & Abuse*, 6(1), 55-78.
- Sydor, G., & Philippot, P. (1996). Conséquences psychologiques des massacres de 1994 au Rwanda. . *Santé Mentale au Quebec*, 21, 229-275.
- Terr, L. C. (1979). Children of Chowchilla : a study of psychic trauma. *Psychoanal Study Child*, 34, 547-623.
- Thabet, A.A.M., & Vostanis, P. (1999). Post-traumatic stress reactions in children of war. *Journal of Child Psychology and Psychiatry*, 40, 385–391.
- Thabet, A.A., Abed, Y. & Vostanis, P. (2001). The effect of trauma on Palestinian children and mothers mental health in the Gaza Strip. *Eastern Mediterranean Public Health Journal*, 7, 314-321.
- Thabet, A.A., Abed, Y. & Vostanis, P. (2002). Emotional problems in Palestinian children living in a war zone: a cross-sectional study. *Lancet*, 359, 1801-1804.
- Thabet, A. A. M., Abed, Y., & Vostanis, P. (2004). Comorbidity of PTSD and depression among refugee children during war conflict. *Journal of Child Psychology and Psychiatry*, 45(3), 533-542.
- Thabet, A. A., Abdulla, T., El Helou, M., & Vostanis, P. (2006). Effect of trauma on children mental health in the Gaza Strip and West Bank (Chapter in a Book, (Eds) Greenbaum, C. W., Veerman, P., Bacon-Shnoor, N (2006). Protection of Children During Armed Political Conflict .A Multidisciplinary Perspective.
- Weine, S. M., Becker, D. F., Mcglashan, T. H., Laub, D., Lazrove, S., Vojvoda, D., et al. (1995). Psychiatric Consequences of Ethnic Cleansing - Clinical Assessments and Trauma Testimonies of Newly Resettled Bosnian Refugees. *American Journal of Psychiatry*, 152(4), 536-542.

Wohlfarth, T., Winkel, F.W. & van den Brint, W. (2002). Identifying crime victims who are at high risk for post traumatic stress disorder: developing a practical referral instrument. *Acta Psychiatrica Scandinavica*, 105, 451–460.

Trauma and Bereavement association

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Running head: TRAUMA AND BEREAVEMENT ASSOCIATION

Abstract

With a sample of young survivors traumatically bereaved from the genocide in Rwanda (N=232), this study assessed the association between trauma and bereavement responses 11 years after the traumatic exposure. Aged between 1-18 years (M=7.97, SD=3.25) at the traumatic exposure, participants were assessed on their trauma and bereavement history from the genocide, and on present PTSD (UCLA PTSD; Pynoos et al., 1998) and grief reactions (UCLA EGI; Layne et al., 2001). Further, sociodemographic data were collected and included age, gender and family situation. As expected, results reveal strong association between PTSD and grief reactions, $r(232) = .73, p < .001$; PTSD sufferers score higher on grief scale. Contrary to age and gender, grief reactions are significantly associated with present family situation. As compared to others, children and adolescents heading household (CHH) reported intense grief reactions. In that way, PTSD diagnosis and the lack of parent substitute are postulated to undermine the grief resolution of the traumatic bereavement from the genocide. A prospective conclusion suggests that PTSD diagnosis be dealt with before triggering grief work process. Further, psychosocial interventions and traditional funeral rituals accomplishment is recommended to sustain that process.

KEY WORDS: CHH, PTSD, grief, association, Rwanda

Clinical and empirical researches interested in psychological trauma and bereavement have proceeded independently, with few links between the two (Green, 2000). However, existing data show that traumatic bereavement is not the same as the grief that follows a natural death. Following a traumatic bereavement, the mourner is simultaneously confronted to the loss of the relation with the deceased and the trauma deriving from the violent circumstances characterizing the death.

Exposure to traumatic events predicts a number of psychological difficulties, mainly PTSD and associated mood disorders. Already, at the inception of PTSD as a major diagnostic criterion (DSM III, APA 1980), the question of which events should be considered as traumatic stressors was raised (Kaltman & Bonanno, 2003). In its present version (DSM IV; APA, 1994), “learning about unexpected or violent death, experienced by a family member or other close associate (Criterion A1)” is mentioned as traumatic event. Indeed, horrific, brutal or grotesque deaths involving mutilation, molestation or extreme pain are psychologically dissonant and are likely to exceed subjective coping abilities. Such violent deaths may result in higher risk for complicated grief and PTSD associated with the subsequent traumatic imagery. Further, stigmatized deaths (AIDS, suicide, ethnic cleansing) are also psychologically unacceptable and leave survivors at greater risk for complicated mourning resulting from the shame and guilt related to the stigmatized death or the guilt of surviving when relatives died (Denis, 2005; Green, 2000).

Some wealthy studies assessed trauma exposure and PTSD as an outcome, and examined whether violent death predicts PTSD symptoms (Kaltman & Bonanno, 2003; Sprang & McNeil, 1998). In contrast, few studies evaluated the grief responses following violent death, especially

traumatically bereavement following mass killings, witnessing a murder or discovering mutilated body of relatives. Also, children and adolescents seem to be ‘the forgotten mourners’ and tend to be under-represented in bereavement and trauma research (Dowdney et al., 1999; Robinson, 1998).

Similarities and differences between trauma and bereavement symptomatology have been evidenced (Raphael & Martinek, 1997, Stroebe, Schut, & Finkenauer, 2001). Such findings support the need to explore the links between trauma and bereavement. Studying circumstances involving traumatic loss, in which the mode of death is sudden and violent, might bridge the two areas. Clinical symptoms and risk factors associated with traumatic loss, and the combined influences of loss and trauma exposure, deserve to be systematically assessed and addressed (Neria & Litz, 2004). Extending a PTSD cognitive model (Ehlers & Clark, 2000), the cognitive-behavioural conceptualization of complicated grief (Boelen, van den Bout, & van den Hout, 2003) emphasizes how the association of trauma and bereavement complicates the grief responses and mourning process following violent death. Specifically, post-traumatic intrusions and avoidant strategies weaken subjective efforts to work through grieving process (Boelen, van den Hout, & van den Bout, 2006; Ehlers, 2006). Thus, in violent death, both trauma and grief reactions occur together and must be dealt with as interacting and embedded sets.

Additionally to the violent circumstances surrounding the death which interfere with the mourning process (Kaltman & Bonanno, 2003), more risk factors are to be considered in exploring complicated grief responses, such as the characteristics of the relationship with the deceased person, the multiplicity of the losses, the absence of proper social rituals and funeral ceremonies, and the lack of social support (Mombourquette, 1996). Much critically, young traumatically bereaved are at high risk because such an experience is beyond the scope of their understanding and coping ability. It is hypothesized that children’s understanding and ability to

cope with death reality (e.g. irreversibility, universality and irrevocability) depend on how mature they are. Such ability and knowledge are achieved approximately at 7 or 8 years of age (Webb, 2000). In accordance with that developmental perspective, the more mature the child is, the better he/she should cope with bereavement. With violent death, young traumatically bereaved are trapped in an overwhelming circle of separation distress and trauma, implying a “double psychological burden” (Raphael et Martinek, 1997). Moreover, bereaved individuals are to cope with the separation (affective) and traumatic distress at one side and at the other side with all the practical changes which occur in their life.

In the light of this literature review, the 1994 genocide against Tutsi perpetrated in Rwanda, and its tremendous violence and important losses, expose its young survivors to high risk of developing both chronic PTSD and complicated grief (Dyregrov, Gupta, Gjestad, & Mukanoheli, 2000). This study aims at assessing, in a teenaged and young adult’s Tutsi population who survived from the genocide, the association of PTSD and grief reactions consecutive to the mass killings committed in Rwanda. The research explored (a) the trauma and bereavement history of the survivor, (b) the prevalence of PTSD and grief symptoms as psychological outcome, and (c) the relationship between PTSD and grief responses.

First, we hypothesized that grief reactions are a function of age (at the bereavement), gender, and current family situation. With regard to age, and given the cognitive development approach, we expected that survivors who were aged above 7 years, given their cognitive ability to understand the death reality, may suffer much complicated grief reactions.

As regard gender, there is generally a higher prevalence in female adults as regard grief (Chen et al., 1999; Schwab, 1996) and PTSD symptoms (Boksztzanin, 2007; Olff, Langeland, Draijer, & Gersons, 2007; Springer & Padgett, 2000). However, *PsycINFO* searching retrieves few data regarding gender differences of such symptoms in children and teenagers, especially in

the context of a human catastrophe, such as war or genocide. In such case, it is possible that the extremity of the stressor alleviate individual differences, such as the one due to gender. We nevertheless tentatively predicted a higher prevalence of these symptoms in female teenagers and young adults.

Third, more drastic losses of relatives should predicts more intense grief and PTSD symptoms. Thus, children who lost both parents and live either in children headed households or in orphanages should be more affected than children who lost one parents or who were adopted by a foster family.

Finally, we expected that the violence of the genocide and the importance of the losses encountered predict persistent PTSD and grief symptoms. Respondents exposed to the violent birth parent/relatives' death should exhibit severe grief reactions and associated PTSD symptoms as well. We further assumed that persistent grief reactions depend on the interaction with posttraumatic symptoms, thus implying that participants with a positive PTSD diagnosis are vulnerable to intense grief symptoms and vice versa. Specifically, traumatic intrusions might act as triggers reactivating grief.

1. Method

1.1. Participants

Data were collected in September 2005, roughly 11 years after the genocide. All participants were survivors of the 1994 genocide and reported severe traumas and bereavement exposure resulting from the genocide (see Table 1, chapter 2). Respondents were recruited from secondary schools of the southern province in Rwanda and accepted to respond to our questionnaires. Eligible subjects were young survivors with trauma and bereavement history:

They experienced the genocide, lost one or more relatives due to genocide, and were willing to participate in the study. Other orphans (e.g. HIV/AIDS) and young adolescents from long-term refugees who were repatriated after the genocide were excluded from the sample. Participation was strictly voluntary and participants were informed about the objectives of the survey. Given that respondents were contacted at school and being mostly orphans, the consent was from school authorities and survivors association leaders as direct tutors rather the parents.

1.2. Assessment

Participants were assessed on their trauma and bereavement history and psychological condition including PTSD and grief responses. Four questionnaires were administered and completed individually by the respondents during group sessions. Two undergraduate students in clinical psychology at the National University of Rwanda were involved in the data collection.

1.2.1. *Socio-demographic data*

The survey inquired about the age (at the genocide), gender and family situation. Relying on the development model and subsequent comparison analysis, two categories were made onto age variable and thus comparing participants who were 7 years and below to those above 7 years.

1.2.2. *Traumas and Bereavement history*

Adapted from Dyregrov et al, (2000), a 23 items questionnaire assessing Traumas and Bereavement history of the genocide was constructed ($\alpha=.80$). The “Yes” or “No” checklist comprises three domains: exposure to, or witnessing violence (e.g. witnessing the torture of

parents and relatives, the death/murder of parents/relatives, the gun fire and rifle firing, the killings with machetes, etc.), exposure to or threat of death (e.g. Being victim of beating and wounded, torture and humiliation, rape and sexual violence, terror and threatening to death), and the number and type of relationship of relatives murdered during the genocide (e.g. father, mother, brothers and sisters, etc.). Furthermore, participants were asked how they learnt about the death of their relatives.

1.2.3. *PTSD assessment*

PTSD prevalence was assessed with the UCLA PTSD Index (see chapter 3). The scale has proven acceptable internal consistency ($\alpha=.85$, 17 items).

1.2.4. *Grief reactions assessment*

The Extended Grief Inventory (EGI) (Layne et al., 2001) was used to assess persistent grief responses within a population of young adolescents traumatically bereaved. This 28-item instrument was translated into *Kinyarwanda*, the participants' native language. The scale internal consistency was satisfactory ($\alpha=.87$) and the content was consistent with genocide context. The original scale evaluates both uncomplicated (normal) bereavement reactions (sadness, anger, despair, yearning and searching for the deceased, positive connections) and complicated grief (traumatic grief and existentially complicated grief) characterized by persistent deny, intense psychological distress, cognitive and behavioural avoidance, numbing of responsiveness. Suitable for traumatically bereaved adolescents (Layne et al., 2006), the answer format is a 4-pt Likert

scale: 0 = "almost never, less than once a month"; 1 = "rarely, Monthly"; 2 = "sometimes, weekly"; 3 = "often, daily"; 4 = "always, several times a day".

2. Results

2.1. Sociodemographic characteristics

The sample consisted of 232 young survivors, predominantly boys (56.89%) and aged between 1 and 18 years at the genocide ($M=7.97$; $SD=3.25$), half of them aged 7 years and above (49.6%; 2.2% missing). With regard to the family situation at the assessment, the sample included: (a) children and adolescents living with one of the parents (40.08%, $n=93$), (b) orphans of both parents living in foster families (18.53%, $n=43$) and (c) children and adolescents headed household (CHH, 40.51%, $n=94$); 2 participants did not indicate family situation. The family situation is related to how important are the losses [$F(2)=18.57$, $p<.001$] rather than age [$r(225)=.10$, $p>.05$] and gender [$\chi^2(2)=3.89$, $p>.05$]. Respondents who are totally orphans are living in foster family or as CHH.

2.2. Traumas and bereavement history

As presented previously (Table 1, chapter 3), survivors of the genocide in Rwanda experienced severe and massive traumas and were exposed to the horrific death of their relatives. For further analysis, trauma and bereavement checklist items were summed into 3 clusters: exposure to violence, threat of dying, and loss of family members. Descriptive statistics on each cluster evidenced that respondents were exposed to one or more types of violence ($M=8.06$, $SD=2.76$), exposed to or more threats of dying ($M=1.94$, $SD=1.23$) and have lost more than one close relatives ($M=4.92$, $SD=1.67$).

In addition to the exposure to violence and threat of dying, survivors were traumatically bereaved. Overall, 97.8% of the sample reported a death in the nuclear family; e.g. a father (75%) or a mother (56%). With regard to siblings and other relatives, they lost brothers and sisters (84.1%), cousins (81 %), uncles and aunts (85.3%), grandfathers (56.6%), grandmother (55.2%), or other members of the large family (43.5%). These statistics show significant ties and close relatives lost in traumatic circumstances of the genocide.

2.3. Grief reactions prevalence

Descriptive statistics of grief reactions are presented in Table 1. Grief reactions are modulated neither by age nor by gender, $r(227)=.03$, $p>.05$ and $t(230)=-.60$, $p>.05$ respectively. Grief reactions prevalence is significantly associated with current family situation, $F(2,227)=5.36$, $p<.01$. Orphans in foster families ($M=2.10$, $SD=.73$) and CHH ($M=2.15$, $SD=.55$) reported intense grief distress in comparison to those living with a parent ($M=1.87$, $SD=.57$). No difference is observed between survivors in foster families and CHH, $t(135)=-.47$, $p>.05$.

With regard to grief clusters' symptoms, all respondents exhibit equally persistent normal grief reactions regardless of their family situation, $F(2,227)=1.53$, $p>.05$. Grief responses also varied as a function of whether participants witnessed the death of their relatives or not. As reported in Table 2, survivors who were confronted with the violent death of their relatives (*"Being with them at the moment of their killing"*) present higher grief reactions ($M= 2.18$, $SD=.59$) compared to those who were not ($M=1.86$, $SD=.58$), $t(230)=-4.17$, $p<.001$. Similarly, witnessing violent death predict higher PTSD symptoms prevalence, $t(230)=-5.61$, $p<.001$.

Inversely, survivors who learnt from others (relatives or neighbours) the death of their relatives and those who were informed at the national exhumation and inhumation annual ceremonies commemorating the genocide present less grief reactions as compared to those who didn't, $t(230)=3.08, p<.01$ and $t(230)=2.17, p<.05$ respectively.

Table 1

Descriptive statistics of grief and PTSD as function of age, gender and family situation (N=232)

	Age ^a	Gender		t-test	Family situation ^b			ANOVA
		Female	Male		With Par	F. Fam	CHH	
		(N=100)	(N=132)		(N=93)	(N=43)	(N=94)	
		M(SD)	M(SD)		M(SD)	M(SD)	M(SD)	
PTSD Scale	-.03	2.05(.66)	1.92(.71)	-1.37ns	1.76(.63)	2.07(.85)	2.16(.60)	8.84***
Grief Scale	-.04	2.06(.68)	2.01(.54)	.60ns	1.87(.57)	2.10(.73)	2.03(.61)	5.36**
Traumatic	-.11	1.60(.86)	1.62(.78)	.19ns	1.58(.75)	1.54(.81)	1.89(.81)	10.08***
Normal	.02	2.60(.81)	2.54(.65)	-.62ns	2.54(.71)	2.73(.83)	2.50(.68)	1.53ns
Existential	-.00	1.97(.79)	1.86(.76)	-1.03ns	1.70(.76)	2.02(.93)	2.06(.68)	5.90**

Note: Note: ** $p<.01$, *** $p<.001$, ns= non significance at .05; ^a correlation analysis considered the age at the genocide exposure; ^b Family situation include 3 subcategories: (1) With Par = Children and adolescents living with at least on of the parents, (2) F. Fam = orphans living in Foster families (with or no relationship) and (3) CHH= orphans living as Children and Adolescents Headed Household.

2.4. Learning about the death

As presented in Table 2, participants reported various ways by which they learnt about the death of their relatives. Survivors either were exposed to the violent death of their parents and relatives or learnt about the circumstances of their death from direct or indirect witnesses. An association between the exposure to birth parent violent death (being with them at their murder) and the current family situation is observed, $\chi^2(2) = 13.62$, $p = .001$. Of the 94(N=232) CHH who participated in the study, 67.02% were with their parents at the moment of their killing, in comparison to those living in foster family (46.5 %, $n=43$) and the ones living with survived birth parent (40.9%, $n=93$).

Table 2

Grief symptoms associated with as function of the ways survivors learnt about the death of their relatives (N=232)

<i>“How did you learn about the death of your relatives?”</i>	Descriptive Statistics				
	<i>“Yes” responses</i>		<i>“Non” responses</i>		
	N (%)	M(SD)	N (%)	M(SD)	<i>t</i> -student
Being with them at their killing and murder	122(52.6)	2.18 (.59)	110(47.4)	1.86(.58)	-4.17***
Discovering dead and mutilated bodies	75(32.3)	2.14(.55)	157(67.7)	1.98(.62)	1.90ns
Learning from others (relatives or not)	91(39.2)	1.88(.66)	141(60.8)	2.13(.55)	3.08**
At the annual commemorating ceremonies	96(41.4)	1.93(.63)	136(58.6)	2.10(.58)	2.17*
Through GACACA trials	74(31.9)	1.96(.59)	158(68.1)	2.06(.61)	1.16ns
Because they didn't come back after the genocide	84(36.2)	1.93(.61)	148(63.8)	2.08(.60)	1.80ns

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; ns= non significant at $p \leq .05$

2.5. Grief and PTSD symptoms association

Examining PTSD prevalence rate, 71.5 % of the sample met all DSM IV criteria (APA, 1994) for PTSD diagnosis. Assessing the expected association between grief and PTSD, two types of analysis were conducted. First, we tested whether PTSD symptoms predict grief reactions level. Bivariate correlations indicated strong association of grief reactions and PTSD symptoms, $r(232)=.73, p<.001$. Grief reactions are significantly related to PTSD symptoms' clusters including intrusions [$r(232)=.60, p<.001$], avoidance strategies [$r(232)=.64, p<.001$] and hyperarousal symptoms [$r(232)=.68, p<.001$]. With regard to grief subscales, PTSD is associated to "normal grief reactions", $r(232)=.49, p<.001$, and to existential complicated grief and traumatic grief reactions, $r(232)=.61, p<.001$ and $r(232)=.61, p<.001$ respectively. Second, as presented in Table 3, respondents with positive PTSD diagnosis reported high level of grief reactions in comparison to those with negative PTSD diagnosis, $t(232)=-7.58, p<.001$. Participants with positive PTSD diagnosis scored high on all grief reactions clusters.

Table 3

Grief symptoms as function of PTSD diagnosis (N=232)

	Without PTSD		With PTSD		<i>t-student</i>
	diagnosis (N=66)		diagnosis (N=166)		
	M	SD	M	SD	
Traumatic grief reactions subscale	1.15	.69	1.80	.78	-5.85***
Normal grief reactions subscale	2.23	.69	2.70	.69	-4.56***
Existentially complicated grief	1.41	.72	2.10	.71	-6.67***
Overall Grief scale	1.60	.56	2.20	.56	-7.58***

Note: *** $p<.001$

2.6. Prediction of grief reactions

Regression analyses were conducted to predict grief reactions with the variables associated with the exposure to genocide. A multiple regression was conducted to estimate the significant predictors of grief reactions.

Table 4

Summary of Hierarchical Regression Analysis for variables predicting Grief reactions

Predictors	B	SEB	β
Step 1			
Exposure to violence	.06	.01	.28***
Step 2			
Exposure to violence	.04	.01	.19**
Threat of death	.11	.03	.23***
Step 3			
Exposure to violence	.03	.01	.17**
Threat of death	.10	.03	.21***
Loss of family members	.04	.02	.13*
Step 4			
Exposure to violence	.01	.01	.06
Threat of death	.02	.02	.04
Loss of family members	.01	.01	.02
PTSD prevalence	.60	.04	.68***

Note. $R^2 = .28$ for Step 1; $\Delta R^2 = .12$ for Step 2; $\Delta R^2 = .13$ for Step 3; $\Delta R^2 = .52$ for Step 4.

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

First, all predictors, including PTSD diagnosis, were entered in the regression equation as predictors. They accounted for 53% of the variance of grief symptoms, $F(4,227)=65.77$, $p<.001$. Second, hierarchical multiple regression analysis (Table 5) tested the single contribution of predictors in predicting grief reactions.

PTSD diagnosis, $\beta=.68$, $t=13.84$, $p<.001$, accounted for 39 % of the variance of grief symptoms, $F(1,227)=196.60$, $p<.001$. Finally, we tested whether the relation between grief reactions and predictors would still stand after controlling for PTSD symptoms. Controlling for PTSD diagnosis, partial correlations indicated that grief relation is no longer significant with exposure to violence [$rp(229)=.10$, $p>.05$], threat of dying [$rp(229)=.08$, $p>.05$] and losses [$rp(229)=.07$, $p>.05$]. With that, the severity of grief symptoms is significantly mediated and moderated by intersection with PTSD symptoms prevalence.

3. Discussion

This study aimed mainly at assessing the association between grief and PTSD symptoms as a result of being simultaneously exposed to genocide traumas and bereavement. Participants were young survivors of the 1994 Tutsi genocide committed in Rwanda. The hypotheses included that (a) grief reactions should be a function of sociodemographic characteristics of the respondents and the trauma and bereavement history of the genocide; (b) trauma and bereavement exposure should predict conjointly grief and PTSD symptoms; (c) the intersection of trauma and bereavement should predict and mediate grief symptoms severity. Findings from this study confirmed partially our expectations.

In contrast to previous studies (Maercker, Michael, Fehm, Becker, & Margraf, 2004; Semiz, Basoglu, Ebrinc, & Cetin, 2007; Webb, 2000), present findings are not congruent with the assumption of grief reactions and age association. Given that bereaved individuals reported grief independently from the age, such findings support attachment theories of bereavement rather than cognitive development theories. Indeed, the younger participants in this study were unlikely to understand all aspects of the bereavement situation, but they were not too young to feel and suffer from the losses. Young children may feel the absence and remember the deceased parent, thus suffering from such remembering and from the traumatic memories retrieved (Denis, 2005).

Analysing gender effect, grief reactions were surprisingly equally reported by boys and girls. This result doesn't match the Rwandan culture and belief whereby the two are expected to behave differently when bereaved and mourning. For example, it is generally acceptable that women cry and externalize their emotions; what is not the case for men. Similarly, the post-genocide psychological disturbance is believed to be most persistent and severe within women population. Our observations are not congruent with this naive belief. Likewise, the finding is not congruent with studies demonstrating gender differences in adult psychopathology. In adulthood, women are more than twice as likely to be diagnosed with depression and internalizing syndromes as men (Paykel, 1991). Similarly, adolescent girls are reported to be significantly vulnerable to higher rates of depressive disorders and depressive symptoms than boys (Nolen-Hoeksema, 1994; Petersen, Sorigia, & Kennedy, 1991).

The authors attributed that vulnerability to an interaction of two factors: (a) Girls enter early adolescence with a style of responding to frustration and distress that is less efficacious and action-oriented than boys, and (b) girls begin to face certain uncontrollable stressors in early

adolescence to a greater extent than boys. Furthermore, girls may present more internalizing symptoms, such as depression, anxiety, and somatic complaints. Boys, on the other hand, demonstrate more externalizing symptoms such as delinquency, aggression, conduct disorder such as drug or alcohol abuse (Hoffmann, Powlisha, & White, 2004; Nadeem, 1997).

These data are not congruent with the situation of young traumatically bereaved from the genocide in Rwanda. Findings from our research suggest that the extreme nature of the trauma encountered by our participants (e.g. directly witnessing the parents' death), alleviated effects of demographic variables on grief reactions. Considering that trauma and bereavement exposure resulting from the genocide wasn't associated with gender, nor with the age at the bereavement, grief reactions are determined by the magnitude and damages of the circumstances of the bereavement rather by subjective differences. However, future studies should eventually analyse separately internalized versus externalized symptoms characterizing bereavement and trauma for possible gender differences.

Contrary to age and gender, grief symptoms are significantly associated with the current family situation of the respondents. Child and adolescents headed household (CHH) and orphans in foster families are severely affected in comparison to children and adolescents with one parent alive. Currently in Rwanda, CHH constitute the most vulnerable social group in the young population. They experienced important losses (parents, siblings, close relatives) and consequently they are living by their own without adult care and guardianship. Obviously, the increased numbers of orphans and vulnerable children at the aftermath of the genocide challenged the traditional ways of incorporating orphans and vulnerable children into the extended family

structures. The lack of adult guardianship and care, weakened traditional coping systems, and important loss stressors are with negative impact on bereavement adjustment.

We hypothesized also that persistent grief reactions should be predicted by the trauma and bereavement history and that grief and PTSD should be strongly associated as a result of traumatic bereavement. Like PTSD symptoms, persistent grief reactions are significantly predicted by the trauma and bereavement history: exposure to violence, threat of death and the number of losses. However, although PTSD and grief reactions shared similar risk factors, each had unique best predictor. That is, threat of death versus exposure to violence predicted PTSD and grief responses respectively. Seemingly, the exposure to relative violent death is a major risk factor for complicated grief. This is evident when we consider that those survivors who learnt about the death of their relatives from various sources (relatives, neighbors or at the national commemoration ceremonies) reported moderate grief symptoms as compared to those who were exposed to the traumatic impressions of their close relatives death. However, the moderate grief symptoms among survivors who didn't witness the murder of their relatives are to be taken with caution. At the first glance, given the fact that they were not confronted with the traumatic and indecent death of their relatives, thus with less traumatic memories, may result in moderate grief symptoms as compared to others. On the other hand, learning from others offers less convincing evidence to challenge yearning and searching tendency for the deceased. Such level of grief reactions may characterize also mourners engaged whether in delayed or apparently absent grief reactions that might be exaggerated later (Linderman, 1994).

Very interestingly, it is also observed in our data that survivors who discovered their deceased relatives' corpses and subsequently accomplished funeral rituals at the national

ceremonies commemorating the genocide present less grief reactions level. Consistent with this finding, such social support (social rituals) seems to be protective and resilient factor that impact positively on grief reactions course (Lindemann, 1994).

Finally, and congruent with our assumptions, the findings demonstrate also that participants with positive PTSD diagnosis are vulnerable to persistent and increased grief reactions, in comparison to those with negative diagnosis. A possibility is that PTSD sufferers are disrupted in their grief work by traumatic imagery resulting from the death circumstances and associated post-traumatic symptoms. Given the significant correlation between grief reactions and PTSD clusters, intrusions, avoidance and arousal post-traumatic symptoms, might particularly divert the process underlying bereavement adjustment (Neimeyer, 2006). These findings support the notion that the interplay between grief and PTSD should be carefully studied. The conjunction of the two poses special challenges for both theorists and practitioners (Neimer, 2001). Whereas PTSD and traumatic (complicated) grief can be treated separately, in some cases, the interplay of the both imply that post-traumatic symptoms should be dealt with firstly allowing later psychological work of mourning (Green, Grace and Glaser, 1985).

References

- Boelen, P. A., & van den Bout, J. (2002). Gender differences in traumatic grief symptom severity after the loss of a spouse. *Omega-Journal of Death and Dying*, 46(3), 183-198.
- Boelen, P. A., van den Bout, J., & van den Hout, M. A. (2003). The role of negative interpretations of grief reactions in emotional problems after bereavement. *Journal of Behavior Therapy and Experimental Psychiatry*, 34(3-4), 225-238.
- Boelen, P. A., van den Hout, M. A., & van den Bout, J. (2006). A cognitive-behavioral conceptualization of complicated grief. *Clinical Psychology-Science and Practice*, 13(2), 109-128.
- Boksztzanin, A. (2007). PTSD symptoms in children and adolescents 28 months after a flood: Age and gender differences. *Journal of Traumatic Stress*, 20(3), 347-351.
- Chen, J. H., Bierhals, A. J., Prigerson, H. G., Kasl, S. V., Mazure, C. M., & Jacobs, S. (1999). Gender differences in the effects of bereavement-related psychological distress in health outcomes. *Psychological Medicine*, 29(2), 367-38.
- Denis, P. (2005). *Never too small to remember. Memory work and resilience in times of AIDS*. Pietermaritzburg, South Africa: Cluster Publications.
- Dowdney, L., Wilson, R., Maughan, B., Allerton, M., Schofield, P., & Skuse, D. (1999). Psychological disturbance and service provision in parentally bereaved children: prospective case-control study. *British Medical Journal*, 319(7206), 354-357
- Dyregrov, A., Gupta, L., Gjestad, R., & Mukanoheli, E. (2000). Trauma exposure and psychological reactions to genocide among Rwandan children. *Journal of Traumatic Stress*, 13(1), 3-21.

- Ehlers, A. (2006). Understanding and treating complicated grief: What can we learn from posttraumatic stress disorder? *Clinical Psychology-Science and Practice*, 13(2), 135-140.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345.
- Figley, C. (Ed) (1999). *Traumatology of grieving: Conceptual, theoretical and treatment foundations*. Philadelphia: Brunner/Mazel.
- Figley, C., Bride, B. & Mazza, N. (1997). *Death and trauma: The traumatology of grieving*. Philadelphia: Brunner/Mazel.
- Green, B. (1993). *Identifying survivors at risk: Trauma and stressors across events*. In J. P. Wilson & B. Raphael (Eds.), *International handbook of traumatic stress syndromes* (pp. 135-144). New York: Plenum.
- Green, B. L. (2000). Traumatic loss: Conceptual and empirical links between trauma and bereavement. *Journal of Personal and Interpersonal Loss*, 5, 1-17.
- Green, B., Grace, M., & Leser G. (1985). Identifying survivors at risk: long-term impairment following the Beverly Hills Supper Club fire. *Journal of Clinical and Consulting Psychology*, 53, 672-678.
- Hoffmann, M. L., Powlishta, K. K., & White, K. J. (2004). An examination of gender differences in adolescent adjustment: The effect of competence on gender role differences in symptoms of psychopathology. *Sex Roles*, 50(11-12), 795-810.
- Kaltman, S., & Bonanno, G. A. (2003). Trauma and bereavement: Examining the impact of sudden and violent deaths. *Journal of Anxiety Disorders*, 17(2), 131-147.
- Layne C.M., Savjak N., Saltzman W.R., Pynoos R.S. (2001). *BYU/UCLA Expanded Grief Inventory*. Unpublished instrument, Brigham Young University, Provo, UT.

- Layne, C.M., Pappleton, L., Saltzman, W.S., & Pynoos, R.S.(2006). Measuring grief responses in traumatically bereaved adolescents: Recent advances in test development using multiple samples. Manuscript submitted for publication.
- Lindemann, E. (1994). Symptomatology and Management of Acute Grief (Reprinted). *American Journal of Psychiatry* 151, 155-160.
- Lindemann, E. (1994). Symptomatology and Management of Acute Grief (Reprinted). *American Journal of Psychiatry*, 151(6), 155-160.
- Maercker, A., Michael, T., Fehm, L., Becker, E. S., & Margraf, J. (2004). Age of traumatisation as a predictor of post-traumatic stress disorder or major depression in young women. *British Journal of Psychiatry*, 184, 482-487.
- Nadeem, E. (1997). Gender Differences in Pathology : The relationship between gender role orientation and internalizing and externalizing behavior. *Unpublished*.
- Neimeyer, R. A. (2001). *Meaning Reconstruction and the experience of loss*. . Washington DC: American Psychological Association.
- Neimeyer, R. A. (2006). Complicated grief and the reconstruction of meaning: Conceptual and empirical contributions to a cognitive-constructivist model. *Clinical Psychology-Science and Practice*, 13(2), 141-145.
- Neria, Y., & Litz, B. T. (2004). Bereavement by traumatic means: The complex synergy of trauma and grief. *Journal of Loss & Trauma*, 9(1), 73-87.
- Nolen-Hoeksema, S. (1994). An Interactive Model for the Emergence of Gender Differences in Depression in Adolescence. *Journal of Research on Adolescence*, 4(4), 519-534.
- Olf, M., Langeland, W., Draijer, N., & Gersons, B. P. R. (2007). Gender differences in posttraumatic stress disorder. *Psychological Bulletin*, 133(2), 183-204.

- Petersen, A. C., Sorigia, P. A., & Kennedy, R. E. (1991). Adolescent depression: Why more girls? *Journal of Youth and Adolescence*, 20, 247 – 271.
- Pynoos, R. & Nader, K. (1988), Psychological first aid and treatment approach to children exposed to community violence: Research implications. *Journal of Traumatic Stress*, 1, 445-473.
- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The UCLA PTSD Reaction Index for DSM IV (Adolescent version)*. Los Angeles: UCLA Trauma Psychiatry Service.
- Rando, T. (1993) Treatment of complicated mourning. Champaign, IL: Research Press.
- Rando, T. (1998). Complications in mourning traumatic death. In K. Doka (Ed.) *Living with grief after sudden loss*. Bristol, PA: Taylor & Francis.
- Raphael, B., & Martinek, N. (1997). Assessing traumatic bereavement and posttraumatic stress disorder. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (373-396). New York: The Guilford Press.
- Robinson, F. (1998). Children: The forgotten mourners. : Health plan
- Rynearson, E. K. (1986). Psychological effects of unnatural dying on bereavement. *Psychiatric Annals*, 16(5) 272-275.
- Sanders, C. (1992). *How to survive the loss of a child*. Rocklin, CA: Prima Publishing.
- Schwab, R. (1996). Gender differences in parental grief. *Death Studies*, 20(2), 103-113.
- Semiz, U. B., Basoglu, C., Ebrinc, S., & Cetin, M. (2007). Childhood trauma history and dissociative experiences among Turkish men diagnosed with antisocial personality disorder. *Social Psychiatry and Psychiatric Epidemiology*, 42(11), 865-873.

- Sprang, G., & McNeil, J. (1998). Post-homicide reactions: Grief, mourning and post-traumatic stress disorder following a drunk driving fatality. *Omega-Journal of Death and Dying*, 37(1), 41-58.
- Springer, C., & Padgett, D. K. (2000). Gender differences in young adolescents' exposure to violence and rates of PTSD symptomatology. *American Journal of Orthopsychiatry*, 70(3), 370-379.
- Stroebe, M., Schut, H., & Finkenauer, C. (2001). The Traumatization of Grief? A Conceptual Framework for understanding the Trauma-Bereavement Interface. *Israelian Journal of Psychiatry and Related Sciences*, 38, 185 - 201.
- Webb, N. B. (2000). The child and Death. In N. B. Webb (Ed.), *Helping Bereaved Children. A Handbook for Practitioners* (2nd Ed., pp. 3 - 18). New York: The Guilford Press.

**PTSD and comorbidity: the moderating and mediating effect of genocide reminders,
current socioeconomic adversities and coping strategies**

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Running Head: PTSD AND COMORBIDITY

Abstract

This study assessed post-genocide factors and psychological coping strategies predicting PTSD and comorbid disorders severity in a population of young survivors of the 1994 Tutsi genocide in Rwanda. Aged between 3-20 years ($M=8.75$, $SD=3.22$) at the genocide, and 15-32 years ($M=20.76$, $SD=3.29$) at the assessment, 225 (50.7% girls) young people heading household, known as children and adolescents heading household (CHH), were assessed on their PTSD and comorbid disorders prevalence. Further, socioeconomic adversities, trauma reminders and coping strategies were postulated to moderate and mediate PTSD and comorbid disorders. A large portion of the sample (76%) met all DSM IV (APA, 1994) criteria for PTSD diagnosis, with girls reporting higher scores on PTSD and BSI pathologies. Also, significant correlations between PTSD and comorbid disorders are observed. Predicting PTSD and comorbid disorders, risk factors include continuous threatening clues, genocide perpetrators presence, and basic needs satisfaction concerns. Rumination mediates partially the relationship between predictors (risky factor) and outcomes (PTSD and comorbid disorders). The conclusion stresses how social environment and rumination have a negative impact on PTSD and comorbid disorders development.

KEY WORDS: PTSD, comorbidity, moderators, mediators

Existing literature evidenced that the exposure to traumatic event involving “*actual or threatened death or serious injury, or a threat to the physical integrity of self or others ...*” (DSM IV; APA, 1994) may be followed by post-traumatic stress disorder (PTSD) (Overstreet & Braun, 2000). Further, findings have increased the awareness that children and adolescents as well as adults, once exposed to such events may exhibit from moderate to severe PTSD symptoms, depending on whether the trauma is related to natural disaster or man-made violence (see Chapter 1 for a literature review).

Although these well-documented findings have evidenced a significant association between traumatic experience and critical PTSD prevalence, the issue on how the disorder worsens and last over time is still unclear. Empirical and clinical findings ascertained that not all traumatic situations’ survivors develop PTSD. Some recover from the distress few times later while others do not. Similarly, some PTSD sufferers remain disabled for many years (Green, 1994; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Wohlfarth, Winkel, & van den Brink, 2002; Zlotnick et al., 1999).

Researchers interested in assessing mediating and moderating factors involved in PTSD onset and development found that persistent acute posttraumatic reactions are mediated by a “*tripartite multiple stress diathesis aetiology*” (Winkel & Vrij, 1998; Pynoos et al. (1999). The aetiological model includes (a) aspects of the traumatic experience; (b) trauma and loss reminders and (c) proximal and distal trauma related stress and adversities.

Compared to natural disasters, domestic and community traumatic situations seem to generate continuous traumatic cues and stress that in turn maintain distress. In addition to the

objective features of the traumatic experience, its aftermath may include multiple on-going stressors, threats, and adversities affecting individual, familial and community settings. The complexity of the traumatic experience and its occurrence in a natural life setting increase the likelihood of a large number of trauma/loss reminders, socioeconomic secondary adversities (Pynoos, Steinberg, & Piacentini, 1999).

Coping strategies are reported to mediate the relationship between stressor and outcome. Coping strategies are defined as a set of cognitions and behaviours that are used in assessing and reducing the stress induced by the trauma reminders and/or general life stressors. They intend to moderate intrapsychic tension associated with the stressful event. However, resilient strategies should be separated from those which are dysfunctional and thus contributing to the onset of the disorder. The cognitive model of Ehlers and Clark (2000) defining cognitive predictors of PTSD onset emphasizes the way through which cognitive appraisals of the trauma contribute to the development of PTSD. Cognitive appraisals encompass (a) excessive negative appraisals of the event and its sequelae (leading to a sense of permanent threat) and (b) behaviours and cognitive strategies (i.e. dysfunctional behaviours and cognitive processes) driven to ease threat associated with negative appraisals. Dysfunctional behaviours and cognitive strategies generated to reduce the painful symptoms maintain the disorder adversely. Cognitive strategies include thought suppression, avoidance, rumination, and persistent dissociation.

Seeking social support, problem versus emotion focused and avoidance are further coping strategies used to deal with stress (Lazarus & Folkman, 1984). High levels of avoidance coping style, high levels of emotion-focused coping style and low level of problem-focused coping style are reported to significantly predict PTSD symptoms.

Following severe traumas, it is hypothesized that PTSD co-occurs with additional disorders like mood/anxiety disorders (e.g. depression, phobias, TAG), somatic disorders (e.g. somatisation), behavioural disorders (e.g. Drug and alcohol abuse), interpersonal problems (relationship problems, paranoia) (Perkonig, Kessler, Storz, & Wittchen, 2000; Langkafel, & Senf, 2004; Thabet, Abed, & Vostanis, 2004). Evaluating PTSD prevalence and comorbidity in a sample of young Germans (N=3021; aged 14-24 years), Perkonig et al. (2000) came to the conclusion that traumatic events and full PTSD may increase the risk for other disorders, and vice versa. As such, the association between PTSD and comorbid disorders is likely to weaken adjustment efforts and thus lead to severe disablements.

Twelve years after the genocide perpetrated against Tutsi in Rwanda, survivors are exposed to further factors challenging efforts to recover from the genocide consequences. The extent of the damage resulting from such an extreme traumatic experience suggests the hardness of its aftermath life. At the society level, the genocide created a large number of orphans surviving to the death of their parents. Among these orphans, a particular case is that of children and adolescents heading household (CHH). As these young people deal with the trauma and grief from the genocide exposure, they must also struggle to meet basic needs with limited or without resources. Surviving in deleterious social and economic deprivation (e.g. food insecurity, homeless, isolation and marginalization) may interfere not only with the emotional and physical growth but also maintain post-traumatic distress (Green et al., 2003).

This study evaluates persistent PTSD risk factors in a population of children and adolescents heading household (CHH) and who survived to the 1994 genocide perpetrated against Tutsi in Rwanda. Risk factors included genocide reminders, current socio-economic

adversities and coping strategies. Further, the association between PTSD and general mental pathologies is tested. The general mental pathologies include the 9 dimensions constituting the Brief Symptoms Inventory scale (BSI, Derogatis, 19983). Firstly, we expected that genocide reminders and socio-economic adversities predict PTSD prevalence and secondary mental pathologies' onset (BSI). Secondly, we expected that PTSD co-occur with secondary disorders, that association increasing the likelihood of chronic PTSD. Thirdly, we hypothesized that the stress generated by the socioeconomic adversities and trauma reminders (here predictors) result in PTSD depending on age, gender and respondent's position in the household. Finally, as far as coping strategies are involved, we expected that negative coping strategies (avoidance, rumination, emotion-focused) affect negatively the outcome (PTSD, BSI pathologies) contrariwise positive coping strategies (cognitive restructuring/reorganization, social support, problem-solving are postulated to be with beneficial effect. In that way, socio-economic adversities and trauma reminders effect on PTSD and BSI pathologies development depending on the type coping strategies individuals rely on. Thus, coping strategies are expected to mediate the relationship between predictors and outcomes.

1. Method

1.1. Participants

Data were collected in August 2006, roughly 12 years after the genocide. All participants are orphans of the genocide and living in child headed household. Respondents are members of survivors' associations, mainly UYISENGA N'MANZI, AOCM (Association of Orphan Heads of Households) and IBUKA.

1.2. Procedure overview

In 2006 summer, the *National Unity and Reconciliation Commission* (NURC) organized a 15 days camp bringing together children and adolescents heading household (CHH) countrywide. The camp aimed at creating solidarity between CHH and raising awareness on psychosocial problems faced by these totally orphans. Our informants were recruited from those camp attendees.

The sessions organised during the camp included social and economic problems affecting CHH welfare and feeding post-genocide distress. At that camp, I was invited as a keynote speaker and addressed further issues related to poor psychological outcome of the genocide. On the occasion, I invited volunteers who could accept to respond to research questionnaires. Of a population of 400 young participants who could read and write, 225 subjects (56.25%) completed individually the questionnaire assessing trauma reminders of the genocide, social and economic adversities, coping strategies, PTSD symptoms and comorbid general mental health disorders.

Inclusion criteria included fully informed consent for the study, skills in reading and writing native language. Illiterates and psychiatric cases (mainly epileptics) did not take part.

1.3. Measures

In addition to sociodemographic variables (age, gender, and respondent's position in the household), the survey comprised items assessing (a) trauma reminders, (b) post-genocide social and economic adversities, (c) coping strategies, (d) PTSD and (e) comorbid general mental health disorders. All data gathering instruments were prepared into respondents' native language, the Kinyarwanda.

1.3.1. Outcome variables

1.3.1.1. PTSD assessment (UCLA PTSD Index, Pynoos et al., 1998)

A shortened version of the UCLA PTSD scale (17 items, $\alpha = .87$) was used to assess PTSD symptoms, with one item for each of the 17 symptoms associated with PTSD (DSM IV, APA, 1994).

1.3.1.2. General mental pathologies assessment (BSI, Derogatis, 19983)

To assess general mental pathologies, namely comorbid disorders, the “Brief Symptoms Inventory (BSI; Derogatis, 1983) was used. The BSI is a self-report symptom scale designed to measure levels of psychopathology and comprises 9 dimensions of the general mental pathologies which are anxiety, depression, hostility, phobic anxiety, interpersonal sensitivity, somatization, obsession-compulsion, paranoid ideation, psychoticism. In addition to the 9 BSI classic clusters, the questionnaire comprised additional items related to modification of appetite, sleep disturbance, thoughts of death and feeling of guilty. Consisting of 53 items, participants’ native language version demonstrated excellent internal consistency ($\alpha = .94$). The item grouping into separate pathologies respected the author’s format.

1.3.2. Predictor variables

1.3.2.1. Socio-economic factors and trauma reminders Questionnaire (SEFTR)

The questionnaire was generated from a brainstorming session on social conditions affecting CHH life. Participants (N=170) were told to list on a paper all concerns dealt with. Analysing the

accounts, a 14 items questionnaire was constructed (Cronbach's $\alpha = .80$). Items plotted together into a factorial analysis (Varimax rotation; Principal Component Analysis), 58.97% of the variance was explained and four factors extracted. As presented in Table 1, the loaded factors include (1) Continuous threat of dying, (2) presence of genocide perpetrators, (3) Basic needs satisfaction and (4) School and Health care concerns.

1.3.2.2. Coping strategies Inventory (CSI, Tobin et al, 1989)

“*Coping Strategies Inventory* questionnaire (16 items; Tobin, Holroyd, Reynolds, & Wigal, 1989), served in evaluating how people cope with major stress. The scale distinguishes eight articulated factors characterizing two types of strategies including that known as *Engaged coping* (i.e. problem solving, cognitive restructuring, emotional expression, seeking social support) and that of *Disengaged coping* (i.e. problem avoidance, wishful thinking, self-criticism, and social withdraw).

The *Kinyarwanda* adapted version demonstrated weak internal consistency (Cronbach's $\alpha = .65$). To ensure accurate results, items with low inter-items total correlations (less than .20) were removed from the analysis (3 items, i.e. item 1, item 10 and item 11).

Table 1

Factorial items and Structure coefficients of the SEFTR scale

Items	Coefficient.
<i>Factor 1 : Continuous threat of dying and abuse(28.63% of the variance explained; Cronbach's α = .72)</i>	
1. Anonymous threatening letters sent to survivors	.73
2. Verbal and non-verbal intimidations	.68
3. Violence and sexual abuse	.66
4. People spoiling deceased parents' properties or benefiting from	.58
5. Ongoing killings targeting survivors	.57
<i>Factor 2 : Presence of genocide perpetrators (13.72% of the variance explained; Cronbach's α = .73)</i>	
6. Living in the neighbourhood of the genocide perpetrators	.73
7. Release of genocide perpetrators from the jail	.70
8. Negationism, which denies or minimizes the genocide in GACACA trials ⁴	.66
<i>Factor 3 : Basic needs satisfaction (8.70% of the variance explained; Cronbach's α = .68)</i>	
9. Shelter (house)	.77
10. Kitchen utensils	.73
11. Livelihood	.72
<i>Factor 4 : School and Health care concerns (7.91% of the variance explained; Cronbach's α = .59)</i>	
12. School fees (tuition, transport...)	.84
13. School materials (books, pens, uniforms...)	.77
14. Health care	.46

Note: Four-Factor Solution with Varimax Rotation. Extraction Method: Principal Component

Analysis. SEFTR= Socioeconomic Factors and Trauma Reminders.

⁴ GACACA= is a Rwandan traditional form of community conflict resolution whose aim is dealing peacefully with conflicts among neighbors. This form of justice is being used to prosecute charges related to the 1994 genocide against Tutsi.

Table 2 Factorial items and Structure coefficients of the CS I, Kinyarwanda version

Items	Coefficient
<i>Cognitive reorganisation (18.29% of the variance explained)</i>	
1. I convinced myself that things aren't quite as bad as they seem	.74
2. I worked on solving the problem in the situation	.67
3. I reorganised the way I looked at the situation, so things didn't look so bad	.66
<i>Social sharing (13.74% of the variance)</i>	
4. I found somebody who was a good listener	-.82
5. I talked to someone about how I was feeling	-.77
6. I got in touch with my feelings and just let them go.	-.71
<i>Rumination (12.30% of the variance)</i>	
7. I criticized myself for what happened	-.83
8. I blamed myself	-.78
9. I spent more time alone thinking on my situation	-.66
<i>Resignation/behavioural avoidance (10.39% of the variance)</i>	
10. I hoped a miracle would happen and my problems solved	.82
11. I wished that the situation would go away or somehow be over with	.80
<i>Cognitive avoidance (07.91% of the variance)</i>	
12. I went along as if nothing were happening	.78
13. I avoided thinking about the situation	.62

Note: Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. CSI= Coping Strategies Inventory.

Unlike the original factorial structure with 8 factors (2 items each), the factorial analysis extracted 5 factors (62.63% of the variance explained; 13 items) including cognitive reorganization (18.29% of the variance explained), social sharing (13.74% of the variance), rumination (12.30% of the variance), resignation/behaviour avoidance (10.39% of the variance) and the cognitive avoidance (7.91% of the variance). Table 2 presents factorial structure of the scale.

2. Results

2.1. Sample characteristics

A sample of 225 participants (50.7% girls, $n=114$) was recruited aged between 15 and 32 years ($M=20.76$, $SD=3.23$) at the assessment. With regard to the age, and given that data were collected 12 years later; participants at the genocide exposure were aged between 3 and 19 years. All participants were young people living in “Children and Adolescents Headed Household” (CHH). With regard to participants’ position in the household, 57.3% ($n=129$) were caretakers of their young brothers and sisters (42.2%, $n=95$). Heading the household is associated with gender and age, $X^2(1) = 11.152$, $p=.001$ and $t(208)=-4.103$, $p<.001$. Most of those heading household are boys (60.46%) and older ($M=21.52$, $SD=3.26$) than their siblings ($M=19.80$, $SD=2.91$). The size of the household is ranged between 1 and 15 individuals ($M=4.03$, $SD=2.67$). Comparing the household gender distribution, there are more girls ($M=4.45$, $SD=3.12$) than boys ($M=3.65$, $SD=2.13$) in the household, $t(150)=1.98$, $p<.05$.

2.2. Descriptive data

Table 3 presents descriptive statistic of considered variables.

Table 3 Descriptive statistics of considered variables (N=225)

		Min	Max	M	SD	Skew	Kurt
SEFTR	Continuous threat	0	4	1.66	.89	.35	-.39
	Perpetrators presence	0	4	2.54	1.10	.55	-.69
	Basic needs satisfaction	0	4	2.36	1.13	.71	-.41
	School and Health	0	4	1.83	.96	.19	-.43
CSI	Cognitive restructuring	0	4	2.73	.78	.49	.29
	Social sharing	0	4	1.85	.93	.09	-.46
	Rumination	0	4	1.83	.99	.09	-.86
	Resignation	0	4	3.27	.93	.36	1.49
	Cognitive avoidance	0	4	2.43	.97	.18	-.61
BSI	Anxiety	0	4	1.70	.87	.24	-.50
	Somatization	0	4	1.49	.87	.18	-.58
	Psychoticism	0	4	1.57	.75	.14	-.36
	Paranoid Ideations	0	4	2.08	.74	.01	-.05
	Obsessive Compulsive	0	4	1.86	.66	.08	-.18
	Hostility	0	4	1.08	.76	.77	.17
	Phobic Anxiety	0	4	1.76	.84	.02	-.64
	Depressive	0	4	1.55	.88	.11	-.70
	Interpersonal Sensitivity	0	4	1.73	.86	.03	-.58
	Other symptoms	0	4	1.68	.72	.04	-.23
	GSI [†]	0	3	1.65	.62	.08	-.49
PTSD	Intrusion	0	4	2.29	.91	.31	-.58
	Avoidance	0	4	2.18	.74	.20	-.14
	Hyperarousal	0	4	1.93	.89	.17	-.77
	Total Score	0	4	2.13	.72	.36	-.30

Note : Min=Minimum; Max=Maximum; M= Mean, SD= Standard Deviation, Skew= Skewness; Kurt= Kurtosis. SEFTR= Socioeconomic Factors and trauma reminders; CSI= Coping strategies Inventory; BSI=Brief Symptoms Inventory; GSI[†]= General Severity Index and is averaged over 49 items; other symptoms = unspecified symptoms overlapping with different pathologies and are evaluated with the 4 remaining BSI symptoms.

High means scores indicate how intense are specific stress factors (socio-economic adversities and trauma reminders), post-traumatic symptoms (PTSD) and general distress (BSI) experienced by respondents. With regard to stressors, being in contact with the genocide perpetrators (i.e. still living together in the same area) and basic needs satisfaction concerns (e.g. shelter, food, etc.) are reported to be very distressing situations. Likewise, higher scores observed on PTSD and BSI scales characterise the most intense and painful symptoms expressed by participants. With regard to PTSD and BSI subscales, respondents report high scores of paranoid ideations ($M=2.08$, $SD=.91$) and post-traumatic intrusions ($M=2.29$, $SD=.91$) and avoidance ($M=2.18$, $SD=.74$).

2.3. PTSD prevalence

Table 4 presents PTSD prevalence as function of age, gender and participants' position in the household. PTSD mean score entered as dependent, correlation and comparison analysis (independent t-test) tested the association between PTSD symptoms and sociodemographic variables (age, gender, position in the household). Results indicate that PTSD prevalence is not related to age [$r(219)=.02$, $p>.05$], nor the position in the household (being or not the head), $t(178)=1.36$, $p>.05$. However, PTSD is function of gender, $t(223)=2.76$, $p<.01$. Compared to their brothers ($M=2.01$, $SD=.73$), girls reported higher scores on PTSD scale ($M=2.27$, $SD=.69$).

Assessing PTSD prevalence rate, the 4-point Likert PTSD scale was transformed into a dichotomous scale enabling the application of the DSM IV (APA, 1994) criteria for PTSD diagnosis. Thus, 0-1 points were recorded "0" meaning the absence of the symptom and 2-4 points as "1" meaning the presence of the symptom. According to the DSM IV (APA, 1994) criteria, respondents with 1 or more intrusive symptoms, 3 or more avoidance and 2 or more

hyperarousal symptoms were to be diagnosed as with PTSD. In accordance with these DSM IV diagnostic criteria, 76% of the sample (N=225) met PTSD diagnostic criteria, with a greater prevalence for girls (53.2 %) and for those playing the headship role (61.4%) in the household.

Table 4

PTSD prevalence as a function of age, gender and position in the household (N=225)

PTSD symptoms		Age [†]		Gender		Position in the household		
				Girls	Boys	Member	Head	
Scale				N=111	N=114	N=95	N=129	
	M(SD)	<i>r</i>	M(SD)	M(SD)	<i>t</i>	M(SD)	M(SD)	<i>t</i>
Intrusion	2.29(.91)	.01	2.50(.89)	2.08(.88)	3.51**	2.26(.96)	2.30(.87)	-.226
Avoidance	2.18(.74)	-.00	2.31(.73)	2.05(.72)	2.63**	2.09(.80)	2.24(.68)	-1.53
Arousal	1.93(.89)	.05	1.99(.83)	1.87(.95)	.984	1.80(.93)	2.02(.85)	-1.81
Overall	2.14(.72)	.02	2.27(.69)	2.01(.73)	2.76**	2.06(.80)	2.19(.65)	-1.40

Note: ** $p < .01$. PTSD= Post-traumatic stress disorder. M=Mean, SD= Standard Deviation. † The association of PTSD prevalence and the age was tested through correlation analysis. Position in the household distinguishes membership (Member) and headship (Head).

2.4. BSI symptoms prevalence and comorbidity with PTSD

Table 5 presents descriptive statistics on BSI scale (Means and standard deviations), and the association with age, gender, position in the household and PTSD diagnosis.

Table 5

BSI pathologies as function of age, gender, position in the household and PTSD diagnosis (N=225)

BSI Symptoms		Age [†]	Gender			Position			PTSD diagnosis		
Scale			Girls	Boys		Member	Head		Without PTSD	With PTSD	
			(N=111)	(N=114)		(N=95)	(N=129)		(N=53)	(N=171)	
	M(SD)	<i>r</i>	M(SD)	M(SD)	<i>t</i> -test	M(SD)	M(SD)	<i>t</i> -test	M(SD)	M(SD)	<i>t</i> -test
ANX	1.70(.87)	-.10	1.86(.86)	1.57(.87)	2.79**	1.63(.97)	1.73(.79)	.86	.88(.50)	..96(.81)	-11.54***
SOM	1.49(.87)	-.11	1.55(.89)	1.43(.84)	1.03	1.38(.91)	1.55(.81)	1.40	.84(.58)	1.70(.83)	-8.41***
PSY	1.57(.75)	-.08	1.71(.71)	1.43(.77)	2.08**	1.48(.78)	1.62(.72)	1.46	.91(.59)	1.77(.68)	-8.24***
PI	2.08(.74)	-.07	2.08(.71)	2.07(.78)	.127	1.99(.82)	2.13(.68)	1.36	1.49(.70)	2.26(.67)	-7.14***
OC	1.86(.66)	-.11	1.98(.67)	1.75(.64)	2.57*	1.79(.69)	1.90(.63)	1.19	1.45(.60)	2.00(.62)	-5.66***
HOS	1.08(.76)	-.03	1.14(.80)	1.02(.72)	1.13	1.12(.86)	1.03(.66)	-.897	.61(.41)	1.22(.78)	-7.29***
PA	1.76(.84)	-.10	1.93(.78)	1.59(.85)	3.02**	1.70(.92)	1.79(.76)	.752	1.09(.66)	1.97(.77)	-7.45***
DEP	1.55(.88)	-.01	1.67(.93)	1.42(.81)	2.13*	1.37(.94)	1.66(.80)	2.37*	.83(.62)	1.77(.82)	-8.85***
IS	1.73(.86)	-.09	1.92(.87)	1.55(.82)	3.27***	1.68(.91)	1.75(.82)	.616	1.14(.73)	1.91(.82)	-6.09***
GSI	1.65(.62)	-.09	1.75(.60)	1.54(.63)	2.61*	2.06(.80)	2.19(.65)	1.39	1.02(.39)	1.84(.54)	-10.17***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; [†] the association of PTSD prevalence and the age was tested through correlation analysis.

Position in the household distinguishes membership (Member) and headship (Head). PTSD symptoms diagnostic category includes participants with negative diagnosis (Without PTSD) and those with positive diagnosis (With PTSD). ANX= Anxiety, SOM= Somatization; PSY=Psychoticism; PI= Paraoide ideation; OC= Obsessive-compulsive; HOS= Hostility; PA= Phobic Anxiety; DEP=Depression; IS= Interpersonal sensitivity. GSI= General Severity Index.

2.4.1. *BSI symptoms association with age, gender and position in the household*

Correlating GSI as dependent, general psychopathology is not associated neither with age, $r(225)=.09$, $p>.05$, nor the position in the household, $t(222)=-1.45$, $p>.05$. Although GSI is not associated significantly with the predictor “position in the household”, analysis on depression subscale demonstrated significant effect of the predictor, $t(183)=-2.37$, $p<.05$. Those playing the headship role in the household are more vulnerable to depression symptoms ($M=1.66$, $SD=.80$) than their siblings ($M= 1.37$, $SD=.94$). Also, general mental pathology (BSI scale and subscales) was found to be significantly associated with gender, $t(223)=2.61$, $p=.010$. Compared on their GSI means, female participants score higher ($M=1.75$, $SD=.60$) than boys ($M=1.54$, $SD=.63$). Similarly, significant differences ($p\leq.05$) between girls and boys are observed on BSI symptoms subscales. Higher mean scores are observed with girls on anxiety, psychoticism, obsessive-compulsive, phobic anxiety, depression and interpersonal sensitivity (see Table 5).

2.4.2. *Association between PTSD and BSI symptoms*

Estimating the association between PTSD score and General Severity Index (GSI, total score on BSI), correlation analysis demonstrated strong and significant positive association between PTSD score and GSI, $r(225)=.76$, $p<.001$. Participants with PTSD are more vulnerable to further psychological and psychiatric disorders. In testing the difference on GSI level, independent t -test was computed with PTSD diagnosis as independent. There is significant effect of PTSD diagnosis on GSI, $t(119)=-12.04$, $p<.001$. Positive PTSD diagnosis is impressively associated with high scores on GSI. Participants with PTSD report intense symptoms of general mental pathologies ($M=1.84$, $SD=.54$) as compared to those with non PTSD ($M=1.02$, $SD=.39$).

PTSD diagnosis increased the risk for secondary pathological onsets. Secondary disorders with particularly pronounced correlations with PTSD include anxiety [$r(225)=.71, p<.001$], depression [$r(225)=.59, p<.001$], somatisation [$r(225)=.59, p<.001$], psychoticism [$r(225)=.59, p<.001$], paranoid ideation [$r(225)=.56, p<.001$].

2.4.3. Predicting PTSD and BSI symptoms by SEFTR

Analysing the socioeconomic adversities and trauma reminders (SEFTR) effect in predicting outcomes (PTSD and BSI disorders) correlation and regression analysis were conducted.

2.4.3.1. Correlation analyses

Correlations between socio-economic stress, trauma reminders (SEFTR) and the outcomes are presented in Table 6. Apart from school and health care concerns, it appears that PTSD and symptoms subscales are significantly related to predictors. Continuous threat, being in contact with genocide perpetrators, concerns about basic needs satisfaction are strongly associated with the likelihood of posttraumatic distress. Such unsafe environment and unsecure life conditions undermine the sense of safety and security involved in PTSD adjustment. Instead of bearing resilience resources (protective factors), such an environment maintains initial trauma reality and increase the likelihood of intrusions, thus poor PTSD adjustment.

Like PTSD, GSI and subscales correlate significantly with most predictors ($p\leq.05$). The severity of post-trauma conditions increases the likelihood of additional secondary disorders. For instance, severity of basic needs satisfaction concerns is associated with somatization symptoms, [$r(225)=.41, p<.001$], and depression, [$r(225)=.34, p<.001$]. Similarly, being permanently

confronted with own abusers, and associated threat, correlates significantly with the GSI and BSI subscales.

Table 6 Correlating PTSD and BSI with SEFTR as predictor (N=225)

Outcome variables	Predictor variables			
	Continuous threat	Perpetrators presence	Basic needs satisfaction	School and Health care concerns
PTSD Symptoms				
PTSD score	.31***	.36***	.31***	.11ns
Intrusion	.27***	.30***	.20**	.10ns
Avoidance	.23***	.30***	.26***	.14ns
Hyperarousal	.30***	.34***	.34***	.10ns
BSI pathologies				
GSI [†]	.23***	.34***	.36***	.21**
ANX	.23***	.33***	.34***	.22**
SOM	.13*	.33***	.41***	.20**
PSY	.16*	.24***	.28***	.10ns
PI	.23***	.18**	.20**	.10ns
OC	.08ns	.19**	.25***	.22**
HOS	.25***	.23***	.12ns	.09ns
PA	.17**	.30***	.29***	.19**
DEP	.13*	.27***	.34***	.15*
IS	.07ns	.13*	.24***	.22**
Others	.28***	.35***	.18**	.12ns

Note: *p<.05; **p<.01; ***p<.001. PTSD= Posttraumatic stress disorder. BSI = Brief symptoms inventory and include ANX= Anxiety, SOM= Somatization; PSY=Psychoticism; PI= Paraoid ideation; OC= Obsessive-compulsive; HOS= Hostility; PA= Phobic Anxiety; DEP=Depression; IS= Interpersonal sensitivity. [†] GSI= General Severity Index and is averaged over 49 items; remaining 4 items assess symptoms overlapping with different pathologies. SEFTR= socioeconomic factors and trauma reminders.

2.4.3.2. PTSD and BSI symptoms prediction by the SEFTR

Regression analyses were conducted to predict PTSD and BSI pathologies by the socioeconomic factors and trauma reminders (SEFTR). Table 7 presents regression analysis summary.

Table 7 Regression analyses summary predicting PTSD and BSI by SEFTR (N=225)

<i>Dependent variables</i>				
<i>Predictors</i>	PTSD		BSI	
Model (Linear)	β	t	β	t
Continuous threat	.15	2.20*	.06	.88
Perpetrators presence	.21	2.80**	.19	2.63**
Basic needs satisfaction	.21	3.18**	.26	3.91***
School and Health concerns	-.01	-.22	.08	1.27
Entire Model	$F(4,220)=13.06^{***}$		$F(4,220)=13.39^{***}$	

Note: ** $p < .01$; *** $p < .001$. PTSD= Posttraumatic stress disorder. BSI = Brief symptoms inventory. SEFTR= socioeconomic factors and trauma reminders.

Each outcome (here PTSD and BSI total scores) was regressed on predictors (here socioeconomic adversities and trauma reminders). All predictors entered together into the regression equations, the entire model indicate significant effect of socio-economic adversities and trauma reminders in predicting PTSD and BSI pathologies, [$_{Adj}R^2=.17$, $F(4,220)=13.06$, $p < .001$] and [$_{Adj}R^2=.18$, $F(4,220)=13.39$, $p < .001$] respectively. Testing for best predictors, genocide perpetrators presence and basic needs satisfaction are with main effect in predicting PTSD and

BSI pathologies. Obtained beta indexes, and the positive significant relationship, indicate that individuals who are exposed to higher levels of stress (resulting from socioeconomic adversities and trauma reminders) also present higher levels of PTSD and BSI pathologies.

2.4.3.3. Moderation of the effect of SEFTR on PTSD

Moderation analysis, like mediation, requires that moderating and dependent variables are significantly associated. Alike, only significant predictors are computed in the analysis.

Preliminary correlations demonstrated that only gender (moderating variable) correlates significantly with PTSD (dependent), $r(225)=-.18, p<.01$, whereas age and position in the household didn't. The latter were therefore excluded from the moderation analysis. Given the significant relationship, gender was hypothesized to moderate SEFTR effect on PTSD. With regard to predictors, only those with significant effect on PTSD are considered in the analysis; i.e. continuous threat, genocide perpetrators presence and basic needs satisfaction. School and Health care concerns variable is not included in the model.

Firstly, predictor values were centered by subtracting the variables mean from each value and thus creating new variables (Aiken & West, 1991; Baron & Kenny, 1986). Being a dichotomous variable, gender was coded -1 (girls) and 1(boys). Interaction term of predictors by gender (moderator) was created by multiplying the predictors' centered main effect by gender. Subsequently, predictors centered value, gender and interaction terms were entered into a hierarchical regression analysis. Tables 8-10 present regression analysis summary. Further, moderation graphs were drawn for more effect depiction (Figures 1-3).

Table 8 Regression analyses moderating PTSD by gender, continuous threat and their interaction

Regression analysis summary		
Model:	$R^2_{adj}=.14$,	
	$F(3,221)=13.04^{***}$	
	β	t
Gender(A)	-.15	-3.42**
Continuous threat (B)	.33	5.40***
Interaction (AxB)	-.09	-1.51

Note: **p<.01; ***<.001. Gender is coded -1 (Girls) and 1(Boys).

PTSD= Posttraumatic stress disorder

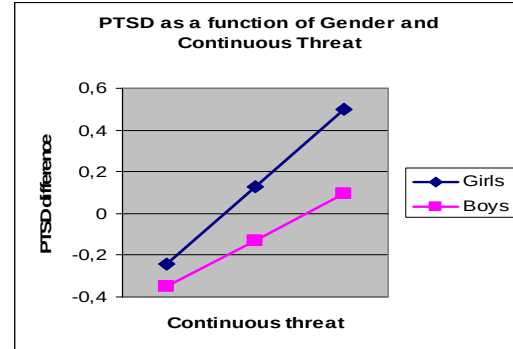


Figure 1: Moderation of the Effect of Continuous threat on PTSD by gender

Table 9 Regression analyses moderating PTSD by gender, genocide perpetrators presence and their interaction

Regression analysis summary		
Model:	$R^2_{adj}=.16$,	
	$F(3,221)=16.07^{***}$	
	β	t
Gender(A)	-.23	-2.29*
Genocide perpetrators presence (B)	.38	56.25***
Interaction (AxB)	.02	.249

Note: *p<.01; ***<.001. Gender is coded -1 (Girls) and 1(Boys). PTSD= Posttraumatic stress disorder

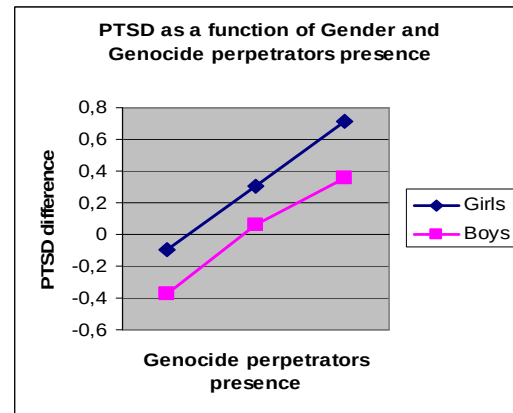


Figure 2: Moderation of the Effect of Continuous treat on PTSD by gender

Table 10 Regression analyses moderating PTSD by gender, basic needs satisfaction and their interaction

Regression analysis summary		
Model:	$R^2_{adj}=.14$,	
	$F(3,221)=13.87^{***}$	
	β	t
Gender(A)	-.24	-
		3.94***
Basic needs satisfaction (B)	.35	5.64***
Interaction (AxB)	-.02	-.434

Note: *p<.01; ***<.001. Gender is coded -1 (Girls) and 1(Boys). PTSD= Posttraumatic stress disorder

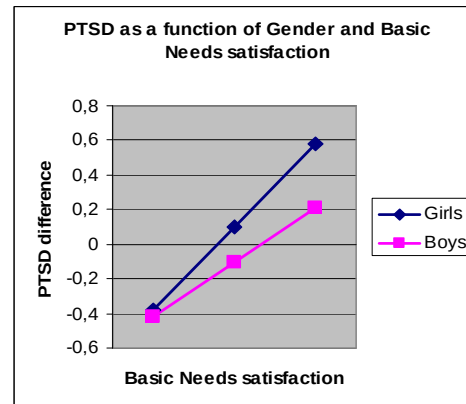


Figure 3: Moderation of the Effect of Basic needs satisfaction on PTSD by gender

Figure

Secondly, reported results reveal main effect of both predictors and moderator in predicting PTSD. Interpreted like Pearson correlations, positive and significant betas ascertain that respondent severely concerned by basic needs satisfaction report intense PTSD symptoms. Also, given negative and significant correlation with gender, results indicate that PTSD is associated with gender. Results presented earlier (see PTSD prevalence) show that girls score higher on PTSD than boys. Still, these results don't demonstrate significant interaction, $\beta = -.02$, $p > .05$, i.e. the interaction term doesn't add significant variance in predicting PTSD.

2.5. Coping strategies

2.5.1. *Correlations analysis*

Correlating PTSD with coping strategies evidenced that PTSD symptoms are weakly related to social sharing, $r(225) = .15$, $p < .05$, and moderately associated with rumination, $r(225) = .47$, $p < .001$. The positive correlation between PTSD and rumination indicates that the rumination impacts on the outcome.

2.5.2. *Predicting PTSD on coping strategies as predictors*

Multiple linear equations regressed PTSD mean score on coping strategies. Table 11 presents regression analysis summary. Overall model is significant, $AdjR^2 = .22$, $F(5, 219) = 13.61$, $p < .001$. Also, unique significant effect of rumination in predicting PTSD is demonstrated, $\beta = .45$, $t = 7.40$, $p < .001$. Entering rumination score as dependent, and PTSD diagnosis as predictor, independent t -test shows significant difference between people with PTSD ($M = 2.43$, $SD = .51$) and that with negative PTSD diagnosis ($M = 1.18$, $SD = .43$), $t(222) = -16.10$, $p < .001$. Data indicate

that respondents with increased use of rumination present worsened PTSD symptoms. The use of ruminative strategies when confronted to post-traumatic cues, or secondary stress, is associated with poor PTSD adjustment.

Table 11 Regression analysis summary predicting PTSD on coping strategies (N=225)

Predictors	PTSD	
Model (Linear)	β	t
Cognitive restructuring	.01	.234
Social sharing	.05	.902
Rumination	.45	7.40***
Resignation	-.05	.927
Cognitive avoidance	.04	.736
Entire Model	$F(5,219)=13.61***$	

Note: *** $p < .001$. PTSD= Posttraumatic stress disorder

2.5.3. Mediating effect of rumination in predicting PTSD and BSI pathologies

Being a subjective psychological mechanism, rumination is hypothesized to mediate the predictor effect (here, socio-economic adversities and trauma reminders) on PTSD.

According to Baron and Kenny (1986), four statistical conditions are required before a variable can be considered as mediator. Firstly, the predictors (here, SEFTR) must be significantly associated with the hypothesized mediator (here, rumination). Secondly, the predictor must be significantly associated with the dependent variable (i.e. PTSD). Thirdly, the

hypothesized mediator must be associated with the dependent variable. Fourthly, the impact of the predictor on the dependent variable must be reduced, after controlling the effect of the hypothesized mediator.

Initial analyses revealed significant correlations between rumination and predictors, i.e. continuous threat ($r=.26, p<.001$), genocide perpetrators' presence ($r=.35, p<.001$) and basic needs satisfaction concerns ($r=.30, p<.001$). Similarly, rumination is associated with PTSD, $r(225)=.47, p<.001$. Regression analysis predicted PTSD (dependent variable) on predictors and results highlight predictor variables qualifying in predicting PTSD (Baron and Kenny's condition 2). These are continuous threat, perpetrators presence and basic needs satisfaction concerns (see Table 3). In the same way, a unique and significant effect of rumination in predicting PTSD is demonstrated (Table 11), $\beta=.45, t=7.40, p<.001$.

Figures 4-8 present mediation paths. Mediation analysis was carried out in respect to the mediation model of Baron and Kenny (1986, Brauer, 2000). In accordance with the model, significant correlation maintained between predictors and PTSD (dependant variable) after controlling for the mediator effect confirms a partial mediation. Given that correlations are reduced and remain significant when controlling for mediator (rumination), rather than being eliminated, rumination mediates partially the relation between predictor variables and PTSD. It could be unrealistic to expect, particularly in a multiple trauma context like the present one, that a single mediator would explain completely (full mediation) the relation between PTSD symptoms and predictor variables. In addition, the mediating effect of rumination over BSI pathologies was assessed. Like PTSD, rumination mediates partially the predictors' effect on BSI pathologies severity.

Further, Sobel Tests were conducted to assess the significance of the mediation. In other words, Sobel tests examined whether the indirect effect of predictors (i.e. socio-economic adversities and trauma reminders) on PTSD and BSI pathologies development through the rumination (mediator) is significant. Calculated p -values are consistent with the assumption of the existing significant partial mediation (see Figures 4-8).

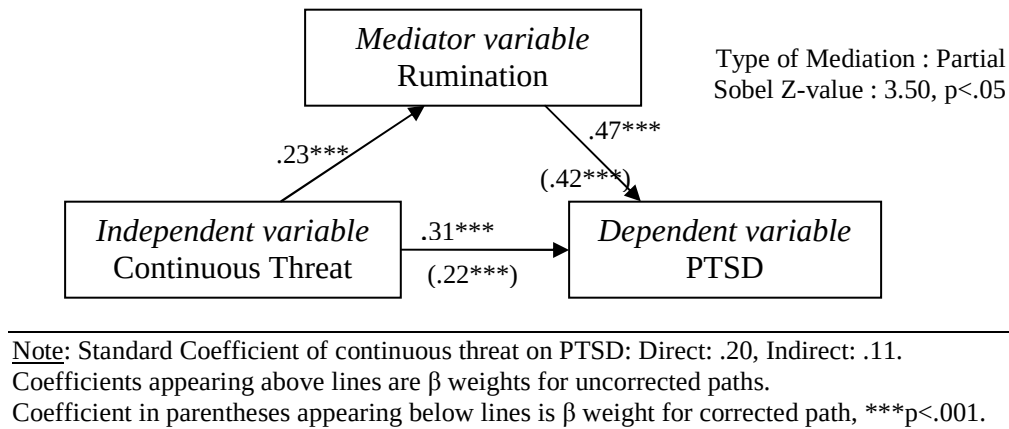


Figure 4: Rumination mediating the indirect effect of continuous threat on PTSD

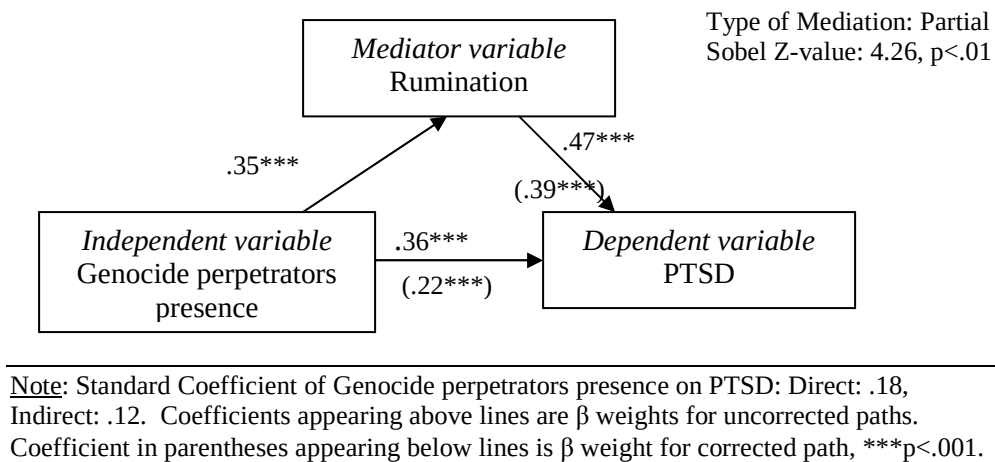
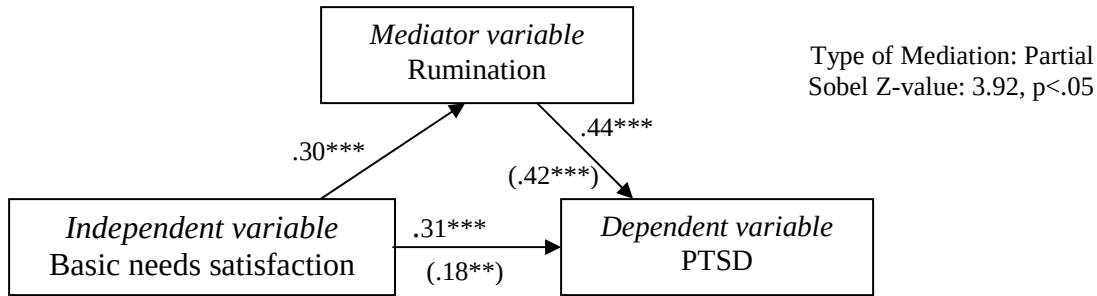
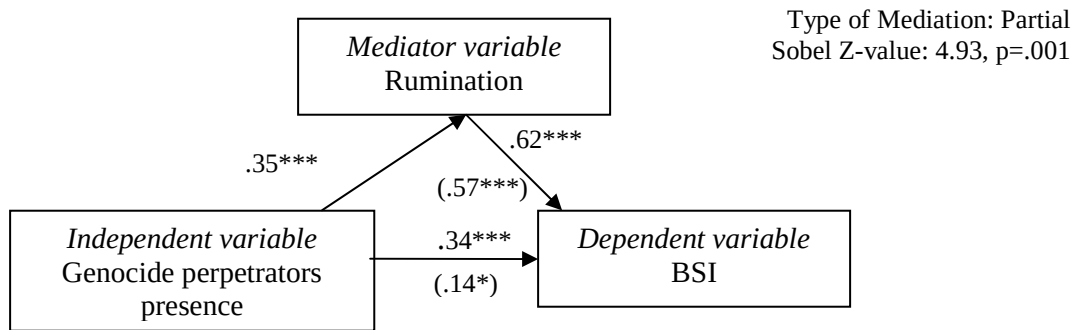


Figure 5: Rumination mediating indirect effect of Genocide perpetrators presence on PTSD



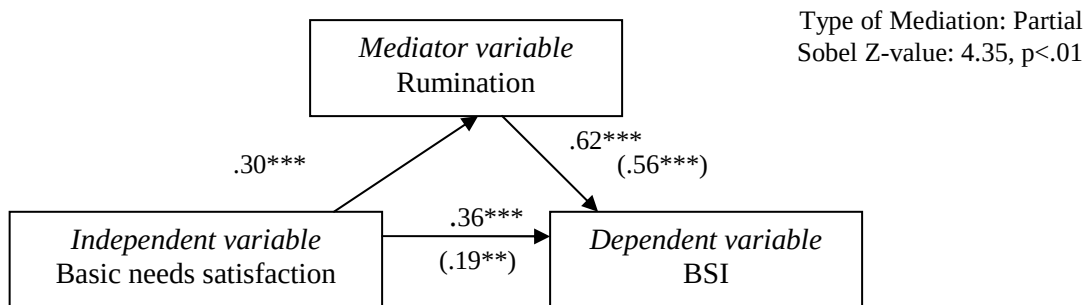
Note: Standard Coefficient of Basic needs satisfaction on PTSD: Direct: .18, Indirect: .12. Coefficients appearing above lines are β weights for uncorrected paths. Coefficient in parentheses appearing below lines is β weight for corrected path, ** $p < .01$, *** $p < .001$.

Figure 6: Rumination mediating indirect effect of Basic needs satisfaction on PTSD



Note: Standard Coefficient of Genocide perpetrators presence on BSI pathologies: Direct: .14, Indirect: .20. Coefficients appearing above lines are β weights for uncorrected paths. Coefficient in parentheses appearing below lines is β weight for corrected path, * $p < .05$, *** $p < .001$.

Figure 7: Rumination mediating indirect of Genocide perpetrators presence on BSI pathologies



Note: Standard Coefficient of Basic needs satisfaction on BSI pathologies: Direct: .14, Indirect: .20. Coefficients appearing above lines are β weights for uncorrected paths. Coefficient in parentheses appearing below lines is β weight for corrected path, ** $p < .01$, *** $p < .001$.

Figure 8: Rumination mediating the effect of Basic needs satisfaction on BSI pathologies

3. Discussion

The aim of this study was to investigate post-genocide factors and subjective mechanism contributing to PTSD persistence within a population of Children and adolescents Heading Household (CHH). Further, the study assessed coping strategies used and their mediating role in predicting PTSD and comorbid disorders. The association of PTSD with comorbid disorders was also estimated.

We expected that genocide reminders and socio-economic adversities increase PTSD prevalence and secondary pathologies' onset (BSI). Data from this study pointed out the types of stressors CHH are exposed to. Survivors of mass killings and community violence are trapped in double traumatizing situations. Survivors live with traumas wounds of their past experience from which they were severely affected by its magnitude and losses encountered (see Chapter 3). In post-conflict, more than in case of normal life stress, there are important secondary traumatic adversities and trauma/loss reminders predicting poor recovery from the traumatic exposure. Data from this study indicate the role of this precarious environment in which survivors are living in. We realized that such an environment is of greater impact on their mental health wellbeing.

Trauma-related secondary adversities constitute an additional source of stress and interfere with the ability to cope with posttraumatic syndrome (Saltzman, Steinberg, Layne, Aisenberg, & Pynoos, 2002; Goenjian et al., 1995). With regard to the post-genocide situation in Rwanda, the family and community ecology that moderate posttraumatic reactions is shattered as a result of the genocide. This includes the change in the daily life within family (i.e. income resources, shelter, health, schooling facilities, etc.), the death of key family caretakers (e.g.

parents and others), thus engaging survivors in extreme poverty and loneliness. Further, the genocide undermines the traditional neighbourhood safety, made the whole community suspicious, installed hatred, thus lowering social support opportunities, with significant negative effect on the development of PTSD symptoms and comorbid disorders onset (Overstreet & Braun, 2000).

The genocide in Rwanda seems to be particularly overwhelming several years after it was committed. Given the extent of damages, at each single kilometre in the country, there are many reminders evoking the genocide and its damages. These are for example memorial sites built everywhere in country alongside the main roads and meeting with people who were involved in the genocide crime. Such reminders are associated with intense psychological and physiological reactivity, and serve to provoke and maintain post-traumatic distress (Saltzman, Steinberg, Layne, Aisenberg, & Pynoos, 2002).

Some traumas reminders have threatening effect whatever the time elapsed. For instance, victims are consistently meeting and interacting with their abusers or conspirators. That regular contact with genocide perpetrators or conspirators maintains the sense of hopelessness, uncontrollability of the situation and feeds a permanent sense of threat and insecurity. That unwanted confrontation defies survivors' coping strategies in that it reactivates the initial traumatic distress and exacerbates all the questions of impunity, injustice and the feeling to be a victim (Pynoos et al, 1991).

We also expected that PTSD co-occurs with secondary disorders, that association increasing the likelihood of chronic PTSD. Our data demonstrate significant association between

PTSD and comorbid disorders. The explanation of this association is twofold. Firstly, risk factors for persistent PTSD predict additional pathologies. In turn, these comorbid pathologies complicate the posttraumatic symptomatology (Freedman, Brandes, Peri, & Shalev, 1999). For example, the hardness of life conditions and the unsafe environment generate anxious and depressive disorders, at the same time they worsen PTSD symptoms. Secondly, it could be noted that, depending on psychological mechanisms and coping strategies, PTSD can lead to the development of various pathologies. For example, ruminating on PTSD symptoms and the appraisal that life has changed for worse, PTSD patients may engage in depression or somatisation.

Existing literature evidenced substantial comorbidity between PTSD and other disorders such as depression (Thabet, Abed, & Vostanis, 2004), somatization or other disorders. These comorbid disorders are ubiquitous to PTSD symptoms but could also result from the effect of socioeconomic adversities and continuous threats associated with the post-disaster context. In their study on widows who survived the genocide in Rwanda, Hagengimana, Hinton, Bird, Pollack, & Pitman (2003) found that Rwandan widows, for living with panic attacks, had developed greater psychopathology that included PTSD, somatic symptoms and depression. As such, the authors emphasized that somatically focused panic-attack subtypes constituted a key response to trauma in that population of genocide survivors in Rwanda. Congruent with these findings, our results show that PTSD diagnosis is associated with a complex taxonomy rather than being a single and isolated disorder.

Thirdly, we hypothesized that predictor effects on PTSD are moderated by age, gender and respondent's position in the household. This assumption is not confirmed by our results. As

moderation could be defined in terms of interaction between two independent variables in predicting the dependent, our data didn't yield any significant interaction effect. However, predictors and hypothesized moderator variables demonstrated significant effects in predicting the outcome (PTSD). Analysing gender differences, findings show that girls reported higher scores on PTSD and reported more stressful socioeconomic adversities and trauma reminders than boys. Even if the gender didn't qualify for moderating effect, it exerts a great effect on PTSD prevalence.

Finally, we expected that coping strategies mediate the relationship between predictors and PTSD. Correlation and multiple regression results indicated a significant effect of the coping strategies on PTSD level. Our data show that rumination mediates partially the relationship between risk factors (socioeconomic adversities and trauma reminders) and the prevalence of PTSD and comorbid disorders (BSI pathologies). Rumination is recognized to be a maintaining factor of various disorders such as depression (Watkins & Baracaia, 2001, 2002) and PTSD (Ehlers & Clark, 2000). When ruminating, people focus on negative material and increased negative appraisals of the consequences of the trauma, thus maintaining the sense of current threat and that situation has changed for worse and for ever. Peoples using rumination in coping with the distress, instead of recovering from their symptoms, are adversely affected. With regard to the situation of CHH in Rwanda, rumination might seem to them to be a positive strategy given their tremendous situation and cultural beliefs. Having to afford theirs needs (food, security, justice, social integration, school...) at such a young age, facing the imposing number of genocide perpetrators or suspects in the community and the cultural values of retaining one's emotions (Gishoma & Brackelaire, 2008), increase the likelihood of the rumination and its consequences.

Our results have a double implication for intervention. Foremost, our results show that CHH are suffering from a complex form of traumatic stress exposing them to chronic PTSD and comorbid disorders. This reality stresses the interest of psychosocial program dedicated to address socioeconomic adversities and social isolation of that vulnerable group of young people heading household. Given that resources helping people in post-conflict are scarce, psychosocial interventions are intended to establish safety (food, shelter, school, etc.) and to connect survivors to restorative resources.

Second, considering the significant effect of rumination in predicting PTSD and comorbid disorders, it could be necessary to develop psychological interventions aiming at modifying the nature and the content of rumination. Instead of being trapped into a circle of ruminative thinking and avoidance behaviours, people should be educated to traumas consequences, encouraged to express their emotions, to seek support, to change their appraisals towards traumas reminders, etc.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.
- Baron, R. M., & Kenny, D. A. (1986). The Moderator Mediator Variable Distinction in Social Psychological-Research - Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345.
- Freedman, S. A., Brandes, D., Peri, T., & Shalev, A. (1999). Predictors of chronic post-traumatic stress disorder - A prospective study. *British Journal of Psychiatry*, 174, 353-359.
- Gishoma, D., & Brackelaire, J.-L. (2008). Quand le corps abrite l'inconcevable. Comment dire le bouleversement dont témoignent les corps au Rwanda ? *Cahiers de Psychologie Clinique*, 1(30), 159-183.
- Goenjian, A. K., Pynoos, R. S., Steinberg, A. M., Najarian, L. M., Asarnow, J. R., Karayan, I., et al. (1995). Psychiatric Comorbidity in Children after the 1988 Earthquake in Armenia. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34(9), 1174-1184.
- Goldstein, R. D., Wampler, N. S., & Wise, P. H. (1997). War experiences and distress symptoms of Bosnian children. *Pediatrics*, 100(5), 873-878.
- Green, B. L. (1994). Psychological research in traumatic stress: an update. *Journal of Traumatic Stress*, 7, 341 – 362.
- Green, B. L., Friedman, M. T., de Jong, J. T. V. M., Solomon, S. D., Keane, T. M., Fairbank, J. A., et al. (2003). *Trauma Interventions in war and peace: Prevention, Practice, and Policy*. New York: Kluwer Academic/Plenum Publishers.

- Hagengimana, A., Hinton, D., Bird, B., Pollack, M., & Pitman, R. K. (2003). Somatic panic-attack equivalents in a community sample of Rwandan widows who survived the 1994 genocide. *Psychiatry Research*, 117(1), 1-9.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the national comorbidity study. *Archives of General Psychiatry*, 52, 1048 – 1060.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Pynoos, R. S., Steinberg, A. M., & Piacentini, J. C. (1999). A developmental psychopathology model of childhood traumatic stress and intersection with anxiety disorders. *Biological Psychiatry*, 46(11), 1542-1554.
- Saltzman, W. R., Steinberg, A. M., Layne, C. M., Aisenberg, E., & Pynoos, R. S. (2002). A developmental Approach to School-Based Treatment of Adolescents Exposed to Trauma and Traumatic Loss. *Journal of Child and Adolescent Group Therapy*, 11(2/3), 43 – 56.
- Servan-Schreiber, D., Le Lin, B., & Birmaher, B. (1998). Prevalence of posttraumatic stress disorder and major depressive disorder in Tibetan refugee children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(8), 874-879.
- Tagay, S., Herpertz, S., Langkafel, M., & Senf, W. (2004). Trauma, post-traumatic stress disorder and somatization. *Psychotherapie Psychosomatik Medizinische Psychologie*, 54(5), 198-205.
- Thabet, A. A. M., Abed, Y., & Vostanis, P. (2004). Comorbidity of PTSD and depression among refugee children during war conflict. *Journal of Child Psychology and Psychiatry*, 45(3), 533-542.

- Tobin, D. L., Holroyd, K. A., Reynolds, R. V., & Wigal, J. K. (1989). The Hierarchical Factor Structure of the Coping Strategies Inventory. *Cognitive Therapy and Research*, 13(4), 343-361.
- Watkins, E., & Baracaia, S. (2001). Why do people ruminate in dysphoric moods? *Personality and Individual Differences*, 30(5), 723-734.
- Watkins, E., & Baracaia, S. (2002). Rumination and social problem-solving in depression. *Behaviour Research and Therapy*, 40(10), 1179-1189.
- Winkel, F. W., & Vrij, A. (1998). Who is in need of victim support? The issue of accountable, empirically validated selection and victim referral. Expert evidence. *Expert Evidence*, 6, 23-41.
- Wohlfarth, T., Winkel, F. W., & van den Brink, W. (2002). Identifying crime victims who are at high risk for post traumatic stress disorder: developing a practical referral instrument. *Acta Psychiatrica Scandinavica* 105, 451-460.
- Zlotnick, C., Warshaw, M., Shea, M. A., Allsworth, J., Pearlstein, T., & Keller, M. B. (1999). Chronicity in posttraumatic stress disorder (PTSD) and predictors of course of comorbid PTSD in patients with anxiety disorders. *Journal of Traumatic Stress*, 12(1), 89-100.

**Intervening on Persistent PTSD: Rumination Focused Cognitive and Behavioral Therapy
(RFCBT) in a Population of Young Survivors of the 1994 Genocide in Rwanda**

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Abstract

This study assessed the outcome of a brief Rumination Focused Cognitive and Behavioral intervention in treating Posttraumatic Stress Disorder (PTSD) symptoms among Rwandan adolescent survivors of the 1994 genocide. All participants (54.5% female, N=22) aged between 15 and 18 years ($M=16.55$, $SD=.96$) met criteria for PTSD as assessed by the PTSD self-rating scale (UCLA PTSD index). Measures included questionnaires assessing PTSD, depression and somatization. Data were obtained at four points: (a) 11 years after the genocide (baseline), (b) 13 years after the genocide (pretreatment), (c) posttreatment (2 weeks after the treatment), and (d) followup (2 months after the treatment). PTSD symptoms increased between baseline and pretreatment. The intervention was associated with a reduction in PTSD symptoms, with gains maintained at followup.

KEY WORDS: children; adolescents; genocide; PTSD; intervention; Rwanda

In their cognitive model of posttraumatic symptomatology, Ehlers and Clark (2000) distinguish three types of subjective factors accounting for the persistence of posttraumatic stress disorder (PTSD). First, negative evaluations ("added meanings") of the trauma and/or its consequences or aftereffects (intrusions, hyperarousal) drive the impression of continuous threat. These evaluations maintain the intrusions together with the physical sensations of malaise, which in turn trigger mechanisms of rumination (Behar, Zellig, & Borkovec, 2005; Borkovec, Newman, & Castonguay, 2003). Second, the nature of the memory of the trauma (difficulty in cognitive integration of the trauma) explains the establishment and the persistence of intrusions, which later create sensitive triggers for the rumination. Third, apprehensive evaluations motivate a set of behaviors (e.g., avoidance) and dysfunctional cognitive strategies (e.g., thought suppression, rumination) intended at reducing the feeling of current threat. However, instead of reducing symptoms, these factors actually maintain the disorder by preventing changes in the apprehensive evaluations and in trauma memory.

Ehlers and Clark's (2000) model has been recently extended in a meta-cognitive model (Wells & Sembi, 2004). The latter model particularly stresses metacognitive processes, mainly anxious rumination, that hinder the normal process of adaptation to trauma. It postulates that the alleviation of anxious ruminations and of interpretative and attentional biases on one hand, and the strengthening of metacognitive flexibility, on the other hand, should foster more adaptive cognition and alleviate symptoms. Clinical findings indeed suggest that rumination-focused interventions may reduce and alleviate PTSD symptoms (Ehlers & Clark, 2000). More generally, clinical evidence (Segal, Williams, & Teasdale, 2006) suggests that the more successfully clients can disengage from rumination and avoidance, the more effective they can be in regulating their feelings and resolving their problem.

This paper presents a study conducted in Rwanda with a sample of young survivors of the 1994 genocide. It assessed the effects of Rumination Focused Cognitive Behavioral Therapy (RFCBT) in treating persistent PTSD and associated disorders such as depression and somatization. Previous data collected 12 years after the genocide (Sezibera & Philippot, in preparation) revealed a high prevalence of PTSD symptoms in a large sample of this population ($N=232$; PTSD prevalence: 71.6%). Consistent with existing findings (Michael, Halligan, Clark, & Ehlers, 2007), our later data indicated that ruminative coping strategy was the best predictor of PTSD symptoms ($\beta = .47$, $t=7.80$, $p < .001$), while other coping strategies, including problem solving, cognitive restructuring, expressing emotions, and seeking for social support, were not significant predictors. Likewise, PTSD was strongly associated with depression [$r(225) = .59$, $p < .001$] and somatization [$r(225) = .59$, $p < .001$].

This evidence together with the theoretical rationale of Ehlers and Clark's model (2000) suggest that an intervention targeting the nature and the content of rumination should reduce PTSD symptoms. In addition, previous research (Nolen-Hoeksema, 2000; Watkins et al., 2007) indicates that rumination-focused interventions should also be effective in alleviating depressive symptoms, which commonly occur in the aftermath of trauma (Thabet, Abed, & Vostanis, 2004).

The present study adopted a within subject design. The "natural" evolution of PTSD symptoms was observed two years before (baseline) and just before the intervention (pretreatment). Then, symptoms were again assessed after the intervention (posttreatment) and at a two-month followup.

1. Method

1.1. Participants

In September 2005 (baseline), that is 11 years after the genocide in Rwanda, PTSD prevalence was assessed in a large population of orphans of the genocide ($N=232$). A significant portion of them (71.6 %) met DSM-IV criteria for a diagnosis of PTSD (American Psychiatric Association, 1994). Two years later, individuals with a PTSD diagnosis at baseline were searched and contacted to participate in the present study. At the pretreatment assessment (February 2007), of the 166 individuals that had received a PTSD diagnosis at baseline, 22 (12 girls) could be located and agreed to take part in the study. The localisation of potential participants was particularly difficult given that, in the Rwandan school system, children are reallocated to different schools after their third year of secondary school. At pretreatment, the 22 located participants still all satisfied PTSD diagnosis criteria. They were aged between 15 and 18 years ($M=16.55$, $SD=.96$). Participants were recruited from high school of survivors' association of the genocide (Association of the Students Survivors of the Genocide). Inclusion criteria consisted of meeting PTSD diagnostic criteria at baseline and pretreatment and willingness to attend therapeutic sessions. None of the participant that could be located refused to take part in the study.

1.2. Measures

At each assessment (baseline, pretreatment, posttreatment, and followup) questionnaires were administered to the participants. They were presented in *Kinyarwanda*, the participants' native language and were completed in a group session in the presence of the experimenter who

assisted participants by individually answering any question raised. The questionnaire package included the following questionnaires:

PTSD was assessed with the UCLA PTSD index (Pynoos, Rodriguez, Steinberg, Stuber, & Prederick, 1998), which is a 17-item measure of the frequency of PTSD symptoms. The index showed satisfactory internal consistency ($\alpha=.77$ at pre-test and $\alpha=.91$ at posttreatment) in its *Kinyarwanda* version. This version was constructed on the basis of several independent translations by Rwandese experts and Rwandese psychology students of the English version of the questionnaire. Any difference in translation was discussed and resolved.

The Brief Symptom Inventory subscales (Derogatis & Melisaratos, 1983) were used to assess symptoms of depression (6 items, $\alpha=.80$) and somatisation (7 items, $\alpha=.84$). The depressive symptoms assessed were suicidal ideation, persistent depressive mood, feelings of solitude and loneliness, pessimism and despair with regard to the future, and self depreciation. Somatisation symptoms assessed were shortness of breath, nausea or stomach troubles, dizziness or fainting, or chest pains.

1.3. Treatment Protocol

Participants received up to 10 weekly sessions, with duration of two hours maximum. Based on the protocols of Borkovec (Borkovec, Newman & Castonguay, 2003) and Watkins (Watkins & Baracaia, 2002), a rumination-focused intervention protocol was adapted for this population. The protocol was constructed according to the following rationale, which integrates the key-processes of Ehlers and Clark's (2000) and Sembi and Wells' (2004) models.

After a session of psychoeducation on PTSD, participants were invited to re-evoked traumatic experiences and to identify their reactions when confronted to the trauma and the coping strategies they spontaneously used. Then, the treatment focussed on rumination that was functionally analysed; more adaptive alternatives were provided and trained. Specifically, it included (1) psychoeducation about trauma and posttraumatic stress symptoms, (2) narrative exposure to traumas reminders (in session exercises), (3) identification of cognitions, emotions and EDB (emotional driven behaviours) associated with the traumas of the genocide, (4) analyzing the coping strategies used when anxious and/or distressed, (5) analyzing the function and the effectiveness of the rumination strategy, (6) identifying and testing alternatives on rumination experiences. To enhance rumination control, weekly homework exercises were given to the participants : (1) attempting exposure to trauma reminders (in vivo and in imago), (2) identifying and challenging avoidant strategies (distraction, isolation, withdraw from the reminders and other subtle behaviours), (3) monitoring anxiety and depression signals, (4) following up coping strategies used naturally when distressed and/or depressed, (5) challenging rumination function (participant monitoring the duration and effectiveness of the rumination benefit), (6) exercises on alternative strategies to rumination (e.g. disclosure and social sharing of emotions). Participants were encouraged to identify intrusive thoughts; to consider alternatives to intrusion and associated rumination; and to test the probability that the thoughts corresponded to reality. All sessions were organized in groups of 5 or 6 participants taking place in the setting of their school.

2. Results

2.1. Maintenance of PTSD Symptoms over Time

Descriptive statistics are reported in Table 1. All participants presented the full range of PTSD symptoms at baseline (Time 1) and pretreatment (Time 2). This attests that participants didn't recover from PTSD in spite of the two years elapsed. Paired *t*-test conducted on the PTSD index between Times 1 and 2 indicated an increase in symptom frequency at Time 2 compared to Time 1, $t(21)=4.44$, $p<.001$; $M(SD)=2.61$ (.61), $M(SD)=2.06$ (.22) respectively. Compared to Time 1, specific symptoms were more frequent at Time 2; specifically, cognitive, emotional, and behavioural intrusions (Symptoms B1, B2, and B3), restricted range of affect (C6), difficulty falling or staying asleep (D1), and the hypervigilance for danger (D4).

Table 1

Descriptive statistics of the dependent variables at the different times of measurement

	Baseline		Pretreatment		Posttreatment		Followup	
	(N=22)		(N=22)		(n=22)		(n=18)	
	M	SD	M	SD	M	SD	M	SD
Intrusions subscale	2.28	.50	2.91	.71	1.70	.61	1.61	.66
Avoidance subscale	2.08	.43	2.52	.53	1.62	1.05	1.46	.76
Arousal subscale	1.82	.39	2.44	.80	1.49	.85	1.46	1.03
PTSD total score	2.06	.22	2.61	.61	1.60	.80	1.50	.74

Note: M= Mean; SD= Standard Deviation

2.2. Association of PTSD, Depression, and Somatisation

Assessing PTSD and co-morbid disorders association, bivariate and partial correlations were calculated at all times of measurement (see Table 2). Positive and significant correlations between PTSD, depression, and somatisation were observed. Further, partial correlations between PTSD and depression are maintained when controlling for somatisation at the pretest, $r(19)=.89$, $p<.001$, the posttreatment, $r(19)=.77$, $p<.001$, and the followup, $r(15)=.80$, $p<.001$. However, partial correlations between PTSD and somatisation are no longer significant when controlling for depression.

Table 2 Correlations among PTSD, depression and somatization symptoms

	PTSD		
	Pre-test (N=22)	Post-test (N=22)	Followup (N=18)
Depression	.92***	.80***	.86***
Somatization	.57**	.44**	.55*

Note * $p<.05$, ** $p<.01$, *** $p<.001$

2.3. Treatment Outcome

An ANOVA with gender as between-subjects factor and time (pre- versus posttreatment) as within subject factor revealed a main effect of time in reducing the frequency of PTSD symptoms, $F(1,20)=23.57$, $p<0.001$, *partial* $\eta^2=.54$, whereas no gender main effect or interaction were observed, $F<1$. Entered as covariate, no significant effects of the age were observed ($p>0.05$). Regarding PTSD diagnostic criteria, 18.2% of the participants ($N=22$) no longer met all diagnostic criteria for PTSD at the posttreatment and this improvement was maintained at the two month followup (17%, $N=18$). Also, the number of participants displaying the full range of PTSD

symptoms (17 symptoms) decreased after the intervention. Thus, 45.5% of subjects presented all 17 symptoms at Time 2, but this number was reduced at Time 3 (22.7%) and Time 4 (5.6%). The intervention didn't significantly impact neither depression, $F(1,21)=2.91$, $p>0.05$, *partial* $\eta^2=.12$, nor somatisation, $F(1,21)=2.97$, $p>0.05$, *partial* $\eta^2=.12$.

3. Discussion

The present data reveal that PTSD symptoms were exacerbated during the two years separating the first evaluation from the beginning of the psychological intervention. This is particularly remarkable, given that these evaluations took place 11 and 13 years after the genocide. This observation is congruent with previous reports. For example, in a sample of 68 surviving teenagers of the genocide in Rwanda (aged between 13 and 23 years), Schaal and Elbert (2006) found that 44% of their sample met DSM IV criteria for PTSD 10 years after exposure to the traumatic events. Similarly, in a study on Holocaust survivors, Amir and Lev-Wiesel (2003) showed that, 55 years later, survivors of the Holocaust had very high scores on symptoms of PTSD, depression, anxiety, somatization, and anger-aggressiveness, as compared to a control group. In the Rwandese case, the long-term exacerbation of PTSD symptoms is likely due to an on-going process of re-traumatization: Survivors are regularly confronted to presumed genocide perpetrators and killers of their relatives. This situation feeds a feeling of injustice and of insecurity. It is to be noted that our study is the first to use a longitudinal design in a Rwandese genocide survivors; all previous studies used cross-sectional designs. The present study is thus the first to document that in this population, not only PTSD symptoms remains high over long periods of time, but also that they worsen.

Regarding the intervention, results from the present study suggest that a brief cognitive and behavioural intervention targeting rumination and cognitive avoidance is associated with a reduction in PTSD symptoms. Indeed, a clear decrease in PTSD symptoms was observed between pre- and post-intervention. Given that the natural course of the symptoms, observed between early baseline and pre-intervention, was to increase, and given that no historical or other factors have occurred during the intervention, this sharp diminution in symptoms can probably be attributed to the intervention. This effect is remarkable for several reasons. It occurred (a) irrespectively of age or gender, (b) after only 10 sessions, (c) in a population with no cultural background or expectation regarding psychotherapy. Further, these improvements were fully maintained at followup. Still, the symptomatology was not totally eradicated and, even if a diminution of symptoms intensity was observed in most participants, a significant number of them still met criteria for PTSD at the end of treatment. In sum, although it cannot claim to be a complete treatment for PTSD, the present intervention seems to be a promising and cost-effective procedure to diminish PTSD symptoms in the context of a multi-traumatized population.

Surprisingly, the intervention did not reduce depressive or somatization symptoms. This observation diverges from studies that have shown a significant effect of rumination-focussed treatment on depression (e.g., Watkins & Baracaia, 2001). However, the present intervention was shorter in duration (10 sessions) and conducted in a group format while other studies addressed individual interventions. More importantly, the present study addressed a population with a primary diagnosis of PTSD rather than depression. The course of depression might be different in this multi-traumatized population compared to a depressed population without traumatic

experience. Indeed, Sack, Him, and Dickason (1999) observed that PTSD and depression followed different paths over time in a population of Khmer adolescents who survived Pol Pot regime mass killings. They offered two interpretations to their findings: Either, PTSD symptoms would be related to earlier trauma while depression would be linked to recent life difficulties or stressors (Sack, Clarke, & Seeley, 1996), or the co-occurrence of PTSD and depression may complicate and weaken treatment (Campbell et al., 2007). In any case, together with former observations, our results suggest that a longer intervention might be needed to decrease depressive symptoms in the present population.

Limitations

The present protocol, although focusing on rumination, included other potentially active factors such psychoeducation, narrative exposure, and group support. Future research is needed to establish the specific ingredients involved in the therapeutic outcome. Also, randomized, controlled studies are needed to more rigorously evaluate the treatment. Finally, the present results raise questions about the nature of the relation between PTSD and depression that need to be addressed in future research.

Despite its limitations, this study has special interest in the posttraumatic context of Rwanda, especially for the population of multitraumatized young survivors. Existing studies with survivors of the genocide in Rwanda are restricted to the evaluation of the prevalence rate of PTSD but did not monitor the persistence of PTSD symptoms over time nor did they test ways of reducing PTSD.

References

- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed). Washington, DC: Author.
- Amir, M., & Lev-Wiesel, R. (2003). Time does not heal all wounds: Quality of life and psychological distress of people who survived the Holocaust as children 55 years later. *Journal of Traumatic Stress, 16*, 295-299.
- Behar, E., Zullig, A. R., & Borkovec, T. D. (2005). Thought and imaginal activity during worry and trauma recall. *Behavior Therapy, 36*, 157-168.
- Borkovec, T. D., Newman, M. G., & Castonguay, L. G. (2003). Cognitive-behavioral therapy for generalized anxiety disorder with integrations from interpersonal and experiential therapies. *CNS Spectrums, 8*, 382-389.
- Campbell, D. G., Felker, B. L., Liu, C. F., Yano, E. M., Kirchner, J. E., Chan, D., et al. (2007). Prevalence of depression-PTSD comorbidity: Implications for clinical practice guidelines and primary care-based interventions. *Journal of General Internal Medicine, 22*, 711-718.
- Derogatis, L.R., & Melisaratos, N. (1983). The Brief Symptom Inventory – an Introductory Report. *Psychological Medicine, 13*, 395-605.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*, 319-345.
- Michael, T., Halligan, S. L., Clark, D. M., & Ehlers, A. (2007). Rumination in posttraumatic stress disorder. *Depression and Anxiety, 24*, 307-317.
- Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. *Journal of Abnormal Psychology, 109*, 504-511.

- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The UCLA PTSD Reaction Index for DSM IV (Adolescent version)*. Los Angeles: UCLA Trauma Psychiatry Service.
- Sack, W. H., Him, C., & Dickason, D. (1999). Twelve-year followup study of Khmer youths who suffered massive war trauma as children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1173-1179.
- Schaal, S., & Elbert, T. (2006). Ten years after the genocide: Trauma confrontation and posttraumatic stress in Rwandan adolescents. *Journal of Traumatic Stress*, 19, 95-105.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2006). *La thérapie cognitive basée sur la pleine conscience pour la dépression. Une nouvelle approche pour prévenir la rechute*. De Boeck.
- Sezibera, V., & Philippot, P. (In preparation). PTSD prevalence and prediction among Rwandan Youth Survivors of the 1994 genocide in Rwanda.
- Thabet, A. A. M., Abed, Y., & Vostanis, P. (2004). Comorbidity of PTSD and depression among refugee children during war conflict. *Journal of Child Psychology and Psychiatry*, 45, 533-542.
- Watkins, E., & Baracaia, S. (2002). Rumination and social problem-solving in depression. *Behaviour Research and Therapy*, 40, 1179-1189.
- Watkins, E., Scott, J., Wingrove, J., Rimes, K., Bathurst, N., Steiner, H., et al. (2007). Rumination-focused cognitive behaviour therapy for residual depression: A case series. *Behaviour Research and Therapy*, 45, 2144-2154.
- Wells, A., & Sembi, S. (2004). Metacognitive therapy for PTSD: A preliminary investigation of a new brief treatment. *Journal of Behavior Therapy and Experimental Psychiatry*, 35, 307-318.

**Intervening on persistent PTSD and co-morbid depression: Rumination Focused Cognitive
and Behavioral Therapy (RFCBT) in a randomized controlled trial (RCT) of young
survivors of the 1994 genocide in Rwanda**

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Running head: INTERVENING ON PERSISTENT PTSD: RCT

Abstract

The present study replicates results from the pilot intervention reported in Chapter 6. The objectives consist in evaluating the effectiveness of a Rumination Focused Cognitive and Behavioural Therapy (RFCBT) in treating PTSD and comorbid depression in a randomized controlled trial (RCT) conducted with young multitraumatized from the 1994 genocide in Rwanda. Participants (N=38) were randomly assigned to treatment group (n=19) and control group (n=19). Treatment protocol included exposure monitoring and challenging negative rumination, exercises, stress management skills, and social sharing exercises. Results demonstrate significant a decrease in PTSD and depression symptoms in the treatment group at posttreatment, while no changes were observed in the control group. Improvement in PTSD is a function of the improvement in rumination, social sharing and loneliness. Regarding rumination mode, decrease in analytic “WHY” thinking rumination is the best predictor of the improvement in PTSD. Depression improvement is positively associated with loneliness. To conclude, an intervention affecting rumination mode, lowering loneliness and increasing social sharing is with beneficial effects on PTSD and depression symptoms.

KEY WORDS: children; adolescents; genocide; PTSD; intervention; Rwanda

Chapter 6 presented the rationale for a Rumination Focused Cognitive and Behavioural Therapy (RFCBT) and findings of a pilot study focusing on the PTSD treatment in a population of young adolescents. The results suggest that RFCBT is effective in treating PTSD in a small group; i.e. a one group pre-post study format. Participants were treated for 10 sessions and the gains were maintained at a two months follow-up. The strengths of that preliminary study includes the fact that, whereas PTSD symptoms have increased over two years (from intake to the pre-treatment session), the post-treatment evaluation demonstrated significant symptoms decrease as an effect of the treatment (Sezibera, Van Broeck, & Philippot, in Press).

These findings inspired further steps. First, it seemed important to establish the active ingredients involved including potential changes in rumination mode. Second, the preliminary study lacked a control group to validate the observed effects. The present study aims at addressing these two issues. Participants were randomly assigned either to a treatment group or to a control group (untreated participants). The objective was to evaluate RFCBT effect in a randomized controlled trial. It was expected that the treatment group would improve better than the control group (untreated). Also, it was expected that improvements in PTSD and depression symptoms would be mediated by changes in rumination mode, in loneliness, and in social sharing

1. Method

1.1. Participants recruitment

In January 2008, young survivors of the 1994 Rwanda genocide were contacted in the secondary school “*Collège Imena de Runyinya*”, Southern Province in Rwanda. Initially, the first author met with the school authorities and presented the study seeking authorization to work with survivors of the genocide in that school. Generally, school directors are resistant to any research

activities targeting trauma and PTSD. These authorities fear that research activities could induce an experience of emotional outburst affecting the whole institution. This meeting aimed at negotiating the permission to work in the school and at ascertaining that the intervention couldn't impact negatively on either the welfare of the participants or the functioning of the school.

Once allowed to recruit participants in the school, the first author contacted the Coordinator of the association of Students survivors of the genocide (AERG, *Association des Elèves Rescapés du Génocide*) to be involved in the process. In collaboration with the AERG Coordinator, an invitation was made to any student survivor who would voluntarily agree to take part in the study. At the first step, questionnaires were proposed by the coordinator so that the volunteers could fill them to select those who meet the inclusion criteria. These criteria included (a) being a survivor of the genocide; (b) freely agreeing to take part in research; (c) meeting the diagnostic criteria of the PTSD (DSM IV; APA, 1994). Participants with actual or past experience of extreme and invalidating episodes of PTSD symptoms, causing durable impairments, were excluded. Supposedly such people would not be able to get through exposure exercise and to deal with their emotions in recalling traumatic events.

Within one week, 70 volunteers (55.1% boys), aged between 15 and 25 years ($M=17.68$, $SD=1.78$), had filled in the questionnaire screening for PTSD (UCLA PTSD Scale), a prior inclusion criteria. Following data analysis from the questionnaires, 39 subjects (55.71%, $N=70$), slightly more boys (52.6 %) and aged between 15 and 21 years ($M=17.57$, $SD=1.23$), met all the criteria of PTSD diagnosis (DSM IV; APA, 1994) and were recruited to participate in the study. One respondent was excluded from the sample because he regularly experienced acute post-traumatic crises.

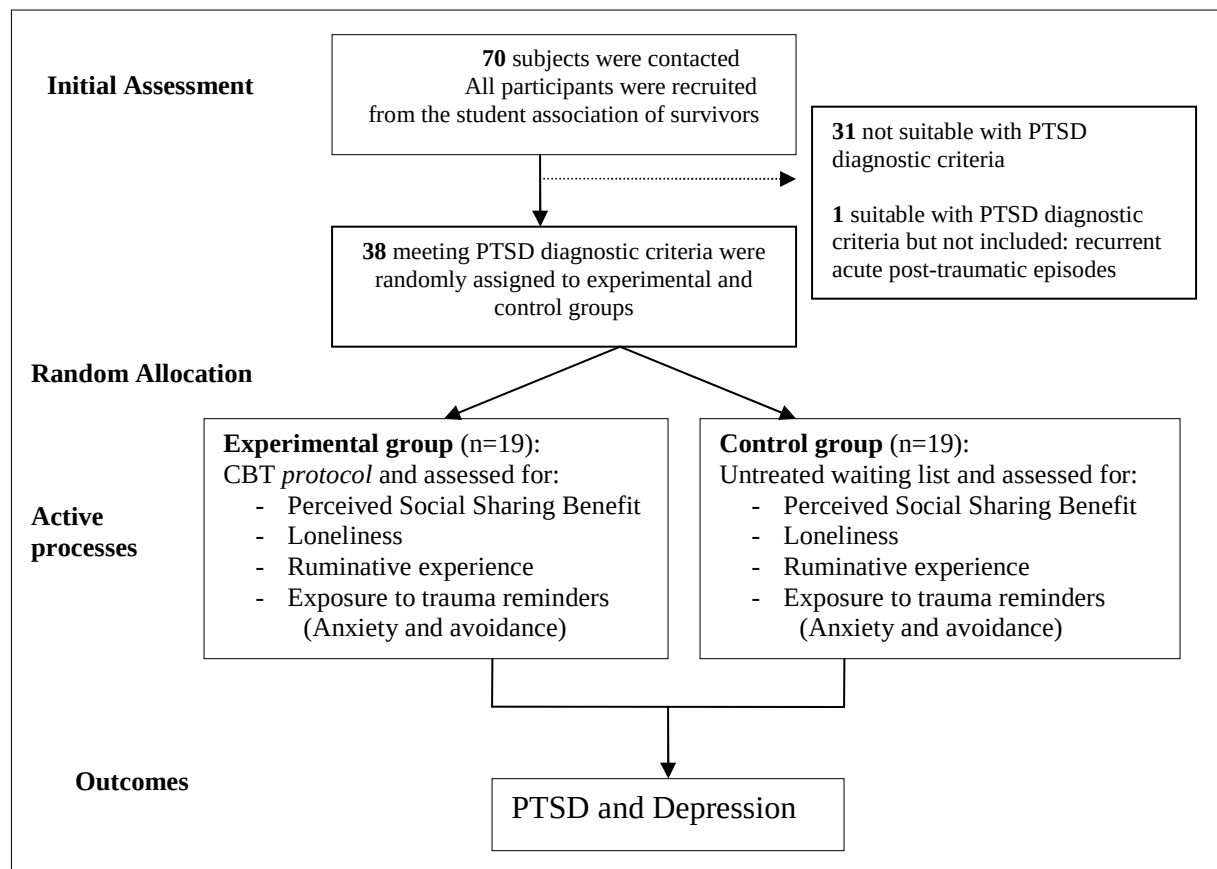


Figure 1 Recruitment flow and randomization assignments to the study. CBT indicates Cognitive and Behavioural Therapy; PTSD, Posttraumatic Stress Disorder

1.2. Sample assignment

The 38 participants meeting the inclusion criteria were randomly allocated to the experimental group (n=19; 52.6 % boys) or to the untreated control group (n=19; 57.9 % boys). With regard to the total score on PTSD scale at the recruitment, the two groups didn't differ, $t(36)=-.10, p>.05$. Prior to the systematic intervention, an information session was organized separately for the two groups. All participants were told that they were entirely free to participate and that they could withdraw their participation at any stage of the study without any consequence. Additionally, the experimental group was informed about the PTSD treatment

protocol including the number of sessions and the types of exercise to be done on a weekly basis. The control group was informed that they would have to complete similar questionnaires twice, once at the first contact and two months later. No case of drop-out was registered in the two groups. Figure 1 is presenting the flow chart of recruitment assignment.

1.3. RFCBT protocol

The intervention consisted in a Cognitive and Behavioural Therapy targeting rumination as key psychological process governing persistent PTSD symptoms. This rationale is based on our previous results on PTSD mediating factors (see Chapter 4) and on existing literature demonstrating that rumination predicts persistent PTSD (Ehlers, Mayou, & Bryant, 2003). Moreover, the protocol refers to the cognitive model of PTSD (Ehlers & Clark, 2000) suggesting that the persistence of PTSD symptoms is related to the ways people process the trauma leading to a sense of current threat. In that perspective, the sense of current threat is a consequence of excessive negative appraisals of the trauma and/or its sequelae, the individual ruminating about its causes and consequences. Thus, the treatment aimed at modifying the excessively negative appraisals by promoting counter-acting cognitive and behavioural strategies.

Accordingly, the treatment protocol, comprising 8 weekly sessions, included psychoeducation on PTSD and rumination, the identification of negative pathogenic rumination and the promotion of alternative to pathogenic rumination, narrative exposure (emotions, situations), and social sharing (emotions, events) with the treatment group. Weekly exercises were given to the participants such as (1) monitoring rumination, anxiety and depression signals ; (2) exercising healthy alternatives to pathogenic rumination (e.g. “how” rumination (Watkins, 2008), distraction) (3) exposure to trauma reminders, (4) challenging negative trauma memories by recalling positive memories in the past lifespan.

The detailed manual of the treatment protocol is in Annexe 1. It is identical to the one used in the previous study described in Chapter 6.

1.4. Procedure

On a weekly frequency, therapeutic sessions were organized in subgroups 9 and 10 individuals. Whereas treatment group underwent treatment sessions, the control group was assigned to an untreated list. For both groups, measures were taken at pre- and post-treatment by an independent trained psychologist; a student completing undergraduate degree in Clinical Psychology. The assessor was briefed on the tools and guided about the assessment procedure.

1.4. Instruments

All the instruments were translated from their original version, mostly English, to the local Kinyarwanda language, the maternal language of the participants. All measures were taken for both groups at the two times of the intervention.

1.4.1. *Perceived Social Sharing Benefit scale*

The *Perceived Social Sharing Benefit Scale* (20 items, $\alpha=0.90$) was used to assess how beneficial is the disclosure of negative experience and emotions associated to the genocide and how this can impact the post-traumatic outcome. Responding to the question: “*Talking with other people about this negative event of the genocide helped me...*”, participants were assessed on a scale from 0 (not at all) – 6 (extremely) and asked how social sharing is helpful. With regard to previous studies (Gasparre, Bellelli, & Curci, 2006), the scale involves two dimensions: (a) the cognitive benefits (12 items, $\alpha=0.86$) including restructuring and cognitive reorganization and (b)

the socio-emotional benefits (8 items, $\alpha=0.78$) including social comparison and socio-emotional support.

1.4.2. *Anxiety intensity and avoidance at the exposure to trauma reminders scale*

Two 26-item scale were designed to assess the current anxiety induced by the exposure to trauma reminder (26 items, $\alpha=.81$) and the resulting avoidance (26 items, $\alpha=.83$). These scales were generated by asking Rwandese students in clinical Psychology to list all the proximal and distal trauma indices that survivors avoid because of the associated anxiety and distress.

1.4.3. *Loneliness scale*

To determine the level of loneliness, the 10-items revised version of the UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) was used on a scale from 1 (not at all) - 6 level. The scale comprises 10 negatively worded items that assess the companionship, closeness with others or withdrawal. With regard to the psychometric properties on the scale, the Kinyarwanda version showed good reliability ($\alpha=.89$) at the pre-treatment, an index which performed at the post-treatment ($\alpha=.93$) as compared to original English version ($\alpha=.94$).

1.4.4. *Ruminative thoughts scale*

The Cognitive Experiential and Ruminative Thoughts Scale (CERTS, 16-items) was used to assess the nature and the content of ruminative and experiential thinking. Referring to the authors (Barnard, Watkins, Mackintosh, & Nimmo-Smith, 2006), the scale comprises 4 components with each four items: (1) abstract comparative-evaluative thinking; (2) analytic “Why” thinking, (3) open, loose divergent, creative thinking and (4) concrete, experiential

thinking. The scale was rated on a 0-4 scale and the scoring consisted in summing the items for each subscales. Although this scale is still under construction, the internal consistency at the pre-treatment and post-treatment was with satisfactory properties, $\alpha=.54$ versus $\alpha=.75$.

1.4.5. *PTSD assessment*

A shortened version of the UCLA PTSD Reaction Index for DSM IV (17 items) was used to assess the presence and the prevalence rate of the PTSD symptoms in the selected sample. The Kinyarwanda version showed satisfactory internal consistency at the pre-treatment ($\alpha=.75$) and the post-treatment ($\alpha=.90$).

1.4.6. *Depression*

A translated 13-item short form of BDI Scale (Groth-Marnat, 1990) was used and checked for attitudes and symptoms of depression like sadness, pessimism, sense of failure, social withdrawal, loss of appetite, etc. The translated Kinyarwanda version demonstrates high internal consistency, with alpha coefficients of .89 and .93 for pre-treatment and post-treatment, respectively.

2. Results

2.1. Preliminary analyses

A series of statistical analyses were conducted to examine whether there were any differences between groups at pre-treatment. Comparisons statistics are presented in Table 1.

Table 1 Considered variables Mean (M) and Standard deviation (SD at pre-treatment (N=38)

	Experimental		Control group		<i>t</i>	df	<i>p</i>
	group (n=19)		(n=19)				
	M	SD	M	SD			
Perceived Social Sharing Benefit							
Cognitive/Restructuring	59.79	9.77	60.84	9.13	-.34	36	.73
Social/Emotional Benefit	35.68	7.93	36.84	5.95	-.50	36	.61
Situational/Emotional Exposure							
Anxiety to reminders	1.60	.45	1.55	.35	.35	36	.72
Avoidance of reminders	1.12	.53	1.25	.43	-.83	36	.41
Loneliness	37.79	14.44	38.58	13.07	-.17	36	.86
Ruminative thoughts							
Abstract Comparative	9.37	3.23	9.84	2.73	-.48	36	.62
Analytic ‘WHY’	10.16	2.79	9.84	2.34	.37	36	.74
Creative thinking	10.00	3.30	10.74	3.81	-.63	36	.52
Concrete/Experiential Thinking	7.11	2.84	7.37	2.75	-.29	36	.77
PTSD							
Intrusion	2.35	.45	2.27	.65	.40	36	.68
Avoidance	2.13	.72	2.32	.64	-.87	36	.38
Arousal	2.19	.51	2.07	.62	-.62	36	.53
PTSD total score	2.22	.42	2.24	.54	-.15	36	.87
Depression	10.74	8.27	12.74	8.21	-.74	36	.46

As presented in Table 1, treatment and control groups were identical and didn't differ on any considered variable. At pre-treatment, participants in both groups were equally meeting all DSM IV (APA, 1994) criteria for PTSD diagnosis. Compared on their scores on PTSD and

depression scales at the pre-treatment, the two groups didn't differ on their symptoms severity either on PTSD or on Depression, $t(36)=-.15$, $p=.87$ and $t(36)=-.74$, $p=.46$ respectively. Further, we tested how PTSD and depression relationship. PTSD and depression are strongly associated, $r(38)=.49$, $p<.01$.

As far as sociodemographic characteristics are concerned, group differences in age and gender were tested. Mean age score ($M=17.41$, $SD=3.56$) and gender were entered as dependent against group category (treatment versus control) into analysis. Comparison analysis demonstrated that the two groups were not different in age, $t(36)=1.96$, $p=.09$, and gender based allocation was balanced in both groups, $\chi^2(1)=.10$, $p=.77$.

2.2. Treatment effect

2.2.1. Mixed ANOVA analysis

The two groups were compared at the two times of measurement, i.e. pre-treatment (Time1) and post-treatment (Time 2). It was expected that the participants having followed the RFCBT sessions would present less PTSD and depression symptoms at Time 2 as compared to the Time 1. Mixed design ANOVAs with time (pre- and post-treatment) and group (treatment vs. control) were conducted on PTSD and depression scores.

Analysing PTSD measures, the main effect of group was significant, $F(1,36)=7.86$, $p=.008$, partial $\eta^2=.17$. The direction of the effect shows that experimental group had lower scores on PTSD scale ($M=1.29$, $SD=.69$) than control group ($M=2.19$, $SD=2.19$). Likewise, there were a group main effect on depression, $F(1,36)=4.10$, $p=.050$, partial $\eta^2=.10$. The time effect was significant for both PTSD and depression, $F(1,36)=32.41$, $p<.001$ and $F(1,36)=20$, $p<.001$, partial $\eta^2=.35$. All these main effects were qualified by significant Time x Group interactions for both PTSD and depression, $F(1,36)=26.49$, $p<.001$, partial $\eta^2=.42$ and $F(1,36)=13.81$, $p=.001$,

partial $\eta^2=.27$. Table 2 and Figures 2-3 show that participants who were assigned to the treatment condition improve from their PTSD and comorbid depression symptoms compared to the untreated group for which no differences are observed between the two times of measurement.

Moreover, the analysis reported significant time main effects and interactions for some postulated active processes. These are the analytic “WHY” ruminative thinking, the social and emotional benefits, the anxiety to reminders, and loneliness (see Table 5).

2.2.2. Treatment effect on PTSD symptoms

Figure 2 presents the improvement in PTSD symptoms at post-treatment for both groups. Consistent with the figure, participants in treatment group reported significant decrease in PTSD symptoms severity at post-treatment. Similarly, participants were assessed for the satisfaction on DSM IV criteria for PTSD diagnosis at post-treatment. Whereas all participants met PTSD diagnosis at pre-treatment, only 36.8 %(n=7) met the full range of PTSD criteria in the treatment group against 94.7%(n=18) in the control group.

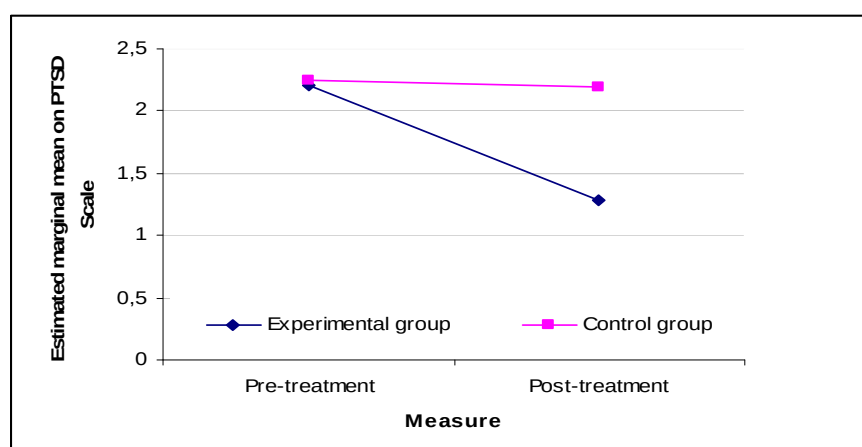


Figure 2 *PTSD symptoms recovery as function of the interaction of the intervention and group (N=38)*

Table 2

Means(M) and Standard Deviations (SD) of considered variables and the Results of Repeated Measures ANOVA testing differences between CBT and Control groups at Time 1 and Time 2 measurement, the interaction Time x Group and their effect size (N=38)

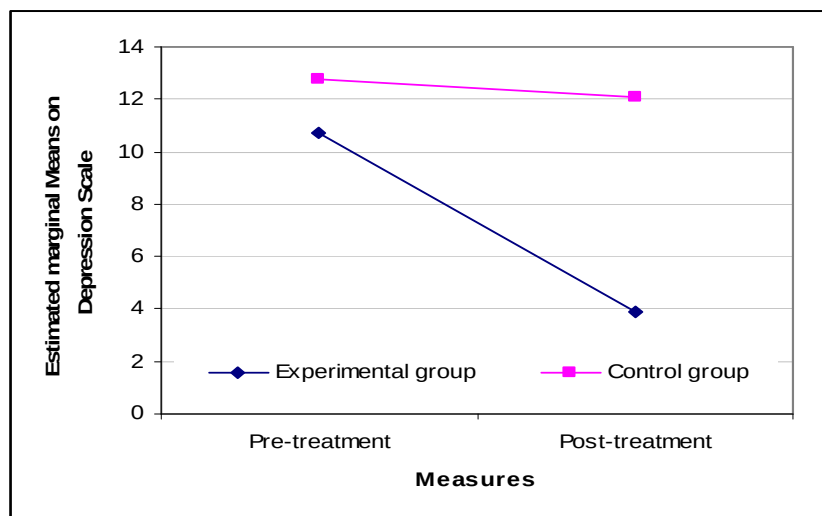
	CBT Group		Control Group		Time		Group		Time x Group	
	Time 1	Time 2	Time 1	Time 2						
	M(SD)	M(SD)	M (SD)	M(SD)	F	Eta ²	F	Eta ²	F	Eta ²
Perceived Social Sharing										
Benefit :										
Cognitive/Restructuring	59.79 (9.77)	62.12(8.05)	60.84(9.13)	59.47(9.16)	.18	.00	.09	.00	2.63	.06
Social/Emotional Benefit	35.68 (7.93)	39.84(6.67)	36.84(5.95)	36.21(6.23)	2.92	.07	.41	.01	5.39*	.13
Situational/Emotional Exposure										
Anxiety to reminders	1.60 (.45)	1.23(0.61)	1.55(.35)	1.50(.50)	12.01***	.25	.56	.01	6.76*	.15
Avoidance of reminders	1.12 (.53)	.87(0.63)	1.25(.43)	1.32(.52)	1.00	.02	3.73	.09	3.15	.08
Loneliness	37.79 (14.44)	25.95 (12.54)	38.58 (13.07)	36.32 (14.81)	12.49***	.25	1.94	.05	5.75*	.13
Ruminative thoughts										
Abstract Comparative	9.37 (3.23)	7.79 (2.93)	9.84 (2.73)	9.84 (3.18)	1.95	.05	2.46	.06	1.95	.05
Analytic 'WHY'	10.16 (2.79)	8.95 (3.35)	9.84 (2.34)	10.63 (2.87)	.21	.00	.71	.01	4.95*	.12
Creative thinking	10.00 (3.30)	8.47 (2.61)	10.74 (3.81)	9.05 (2.61)	6.21*	.14	.70	.01	.01	.00
Concrete/Experiential Thinking	7.11 (2.84)	6.95 (3.30)	7.37 (2.75)	8.05 (2.74)	.31	.00	.68	.01	.80	.02
PTSD										
Intrusion	2.35 (.45)	1.57 (.71)	2.27 (.65)	2.31 (.58)	13.25***	.26	3.87	.09	15.58***	.30
Avoidance	2.13 (.72)	1.29 (.74)	2.32 (.64)	2.14 (.78)	23.21***	.39	6.16*	.14	9.36**	.20
Arousal	2.19 (.51)	1.01 (.78)	2.07 (.62)	2.15 (.84)	22.89***	.39	6.71*	.15	29.40***	.45
PTSD total score	2.22 (.42)	1.29 (.69)	2.24 (.54)	2.19 (.64)	32.41***	.47	7.86**	.17	26.49***	.42
Depression										
	10.74 (8.27)	3.89 (6 .19)	12.74 (8.21)	12.11 (9.66)	20.00***	.35	4.10*	.10	13.81***	.27

Note: *** = $p \leq .001$, **= $p \leq .01$, $p \leq .05$, Eta2= Partial Eta Squared. For all F-ratio, df (1, 2) = (1, 36).

2.2.3. Treatment effect on Depression symptoms

Considering PTSD and depression strong association, we tested whether any PTSD improvement is associated with depression relief. Entered in the analysis model, PTSD and depression improvements are strongly associated, $r(38)=.74$, $p<.001$. As a result of the treatment, a decrease in PTSD symptoms severity is significantly associated with low depression.

With regard to the cut-off score in assessing depression (Groth-Marnat, 1990⁵), the experimental group demonstrated an overall reduction in depressive symptoms over the time when comparing pre-versus post-treatment outcomes: non depression 52.6 % versus 84.2 %, mild to moderate depression 21.1% versus 10.5 % and severe depression 26.3% versus 5.3 %. The findings indicate that at least 31.6 % recovered from the depressive symptoms at post-treatment.



⁵ Total score levels of depression: 05-09=these ups and downs are considered normal; 10-18=Mild to moderate depression; 19-29= Moderate to severe depression; 30-above=severe depression.

Figure 3 Depression symptoms recovery as function of the interaction of the intervention and the group (N=36)

2.3. PTSD and depression improvement predictors

2.3.1. Correlates of PTSD and depression at post-treatment

As presented in Table 3, PTSD and depression improvements are related to improvements in active processes. Table 3 presents correlations of considered variables at post-treatment.

Table 3: Bivariate correlation (2-tailed) of PTSD and Depression associated to active processes at the post-treatment (N=38)

	1	2	3	4	5	6	7	8	9	10	11
Perceived Social Sharing Benefit											
1 Cognitive/Restructuring	-	.72***	-.32*	-.45**	-.35*	-.01	-.01	.12	-.17	-.33*	-.45**
2 Social/Emotional support		-	-.25	-.43**	-.27	-.18	-.09	.04	-.19	-.22	-.32*
Situational/Emotional Exposure											
3 Anxiety to reminders			-	.86***	.33*	.26	.43**	.24	.48**	.43**	.46**
4 Avoidance of reminders				-	.55***	.29	.45**	.12	.49**	.57***	.54***
5 Loneliness					-	.19	.62***	.00	.32*	.70**	.47**
Ruminative thoughts											
6 Abstract Comparative						-	.47**	.31	.55***	.29	.05
7 Analytic 'WHY' thinking							-	.39*	.58***	.56***	.37*
8 Creative thinking								-	.25	-.00	-.12
9 Concrete/Experiential Thinking									-	.37*	.45**
10 PTSD										-	.74**
11 Depression											-

Note: *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$.

Consistent with the correlations, PTSD and depression symptoms correlated with most predictors. Perceived social sharing benefits, i.e. cognitive restructuring and social/emotional support, are negatively associated with depression. Similarly, PTSD is

negatively associated with cognitive restructuring. Impressively, PTSD and depression improvement is function of anxiety and avoidance towards reminders, and loneliness feelings improvement. Changes in these active processes are related to the rumination content improvement, especially to the analytic “Why” and concrete/experiential thinking.

2.3.2. *Improvement scores*

As reported in Table 2, in addition to PTSD and depression, specific active processes were improved as an effect of the treatment. The analysis demonstrated significant Time x Group interactions for analytic WHY ruminative thinking, social/emotional support, level of anxiety towards trauma reminders, and loneliness feeling. The direction of these interactions indicates improvement of these active processes in treatment group in comparison to control group.

To assess improvement level in these active processes, and their effect on PTSD and depression improvements, we calculated improvement scores on variables with significant interaction (see Table 2) by subtracting Time 2 from Time 1. Table 4 presents correlations between the different improvement scores. Increased social and emotional benefit is related to a positive impact on PTSD. Similarly, decrease in loneliness and analytic “Why” thinking is associated with reduced PTSD. Also, depression is positively associated with anxiety to reminders, loneliness feelings and PTSD prevalence.

Table 4 PTSD and depression outcome correlating with active processes improvement (N=38)

Variable	Correlations					
	1	2	3	4	5	6
1. Social and Emotional Benefit	-	-.44**	-.33*	-.41**	-.35*	-.21 ^{ns}
2. Anxiety to reminders		-	.12 ^{ns}	.07 ^{ns}	.31 ^{ns}	.33*
3. Loneliness			-	.47**	.44**	.39*
4. Analytic Why ruminative thinking				-	.58***	.14 ^{ns}
5. PTSD					-	.40*
6. Depression						-

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, ^{ns} $p > .05$

Finally, a hierarchical multiple regression was conducted to assess the significant unique contributions of predictors. PTSD and depression improvement scores were entered in the model as dependent variables, and the improvement scores for analytic WHY ruminative thinking, social/emotional support, level of anxiety towards trauma reminders, and loneliness feeling were entered as predictors. The overall model was significant in predicting PTSD (R^2 change = .40, $F(4,33)=5.56$, $p < .01$) and depression (R^2 change = .25, $F(4,33)=2.86$, $p < .05$). Improvement in analytic “Why” thinking, ($\beta = .42$, $p < .05$), social and emotion benefit ($\beta = -.35$, $p < .05$) and loneliness ($\beta = .37$, $p < .05$) affect significantly PTSD symptoms. Likewise, a decrease in loneliness affected positively depression ($\beta = .37$, $p < .05$).

Interestingly, testing the best predictor of the observed improvement, a regression analysis (Stepwise model) regressed PTSD and depression improvement scores over active processes improvement scores. The equation model yielded a significant unique effect of the analytic *Why* ruminative thinking (R^2 change = .34, $F(1,36)=18.64$, $p < .001$) and loneliness (R^2 change = .15, $F(1,36)=6.73$, $p < .05$) in predicting respectively the relief in

PTSD and depression. Such data indicated that the more the treatment changed positively the content the abstract rumination component, i.e. the analytic “Why” thinking, the best PTSD symptoms are improved. Likewise, reduction in loneliness feelings predicts a lower depression.

Table 5

Hierarchical regression analysis of predictors improvement in predicting PTSD and depression outcome (N=38)

		PTSD		Depression	
Predictors' model		R^2_{change}	β	R^2_{change}	β
1	Social and Emotional Benefit	.12*	-.35*	.04 ^{ns}	-.21 ^{ns}
2	Anxiety to reminders	.03ns	.19 ^{ns}	.07 ^{ns}	.30 ^{ns}
3	Loneliness	.13*	.37*	.12*	.37*
4	Analytic Why thinking	.12*	.42*	.01 ^{ns}	-.14 ^{ns}

Note: *p<.05; ns= non significant at p<.05.

2. Discussion

The present findings support the growing evidence that CBT is efficient to help patients with PTSD and depression (Ehlers et al., 2003). The study was a randomized controlled trial assessing the effect of a Rumination focused Cognitive and Behavioural Therapy (RFCBT) on PTSD and co-morbid depression. Participants were recruited and allocated randomly in a RFCBT group (experimental group) and an untreated group (control group). We hypothesized that a RFCBT would have a positive impact on PTSD

and co-morbid symptoms. We stated that (a) participants who underwent treatment should present less PTSD and depression symptoms at posttreatment than in the control group; (b) the improvement in depression should be strongly associated with the relief in PTSD and (c) the improvement in PTSD and depression should be a function of the treatment effect on predictor variables. These hypotheses were tested and confirmed by our data. PTSD scores showed significantly greater improvement in the RFCBT condition as compared to the untreated condition (significant group x time interaction, $\eta_p^2=.42$). Additionally, participants of the RFCBT condition showed significantly greater reduction in co-morbid depression than the control group (significant group x time interaction, $\eta_p^2=.27$).

The observed improvements in PTSD and depression depend largely on the effects of the treatment on the predictors considered as ingredients interacting in the development of both disorders. Specifically, the relief observed on the level of PTSD is predicted by the improvement in the feeling of loneliness (13% of the variance), the perceived social and emotional benefit (12% of the explained variance) and the analytic "Why" ruminative thinking (12% of the variance). For depression, its improvement is function of loneliness improvement (12%).

Analyzing for the best predictor of PTSD improvement when controlling for the effect of others, the output of the regression analysis revealed that PTSD is predicted by the analytic "Why" ruminative thinking change (significant interaction time x group). Recent studies have evidenced that rumination is a powerful predictor of persistent PTSD

(Michael, Halligan, Clark, & Ehlers, 2007). Certain characteristics of rumination, such as compulsion to continue ruminating, occurrence of unproductive thoughts, and “why” and “what if” type questions, as well as negative emotions before and after rumination, were significantly associated with PTSD, concurrently and prospectively. In this way, respondents engaged in an analytic ruminative thinking (e.g. “*Why* this happened to me? *Why* am I feeling such strong and overwhelming emotions? *What if* the perpetrators of the genocide, or their relatives, attack me?”) are to develop persistent PTSD. In-session and homework exercises targeted such abstract versus analytic ruminative thinking and encouraged participants to challenge such thinking and associated emotions. This was not possible unless the participants engaged in empirical experience: attempting exposure, tracking subtle rumination driven behaviors, disclosing one’s emotions in session, monitoring on a weekly basis distressing situation and associated negative emotions, etc. With such exercises, participants learnt to identify, interpret and challenge intrusive thoughts differently, to consider alternatives to rumination, and to test the probability that the thoughts correspond to reality.

Surprisingly, the analytic “Why” ruminative thinking didn’t predict depression in this sample as found elsewhere (Watkins et al., 2007). Otherwise, our results suggest that the perceived social sharing benefit may impact on depression. Contrary to PTSD, depression is associated with cognitive restructuring ($r = -.52, p < .001$) and perceived social-emotional support ($r = -.35, p < .05$) resulting from the social sharing. The present findings confirm the beneficial effects of social sharing, particularly its immediate positive impact on the level of emotion upheavals, the improvement in positive emotions,

the reduction of the feeling of social isolation and loneliness. Therefore, there is a relation between social sharing of emotions and loneliness. Referring to Rimé (2005), besides that painful memory and associated emotions are activated; the social sharing re-creates a community of membership, with its values and its bonds. Considering the group setting of the treatment condition, we assumed that the group dynamic was supportive and helpful in decreasing the loneliness. In such, individuals benefited from peer experiences (cognitive restructuring) and interactions in sessions (emotional support).

This study suggests that a therapeutic intervention aiming at rumination could have an effect in the treatment of PTSD. Our clinical observations during these sessions imply that promoting psychoeducation on trauma, rumination and PTSD, encouraging progressive exposure exercises, developing anxiety management skills, reinforcing social sharing may impact on rumination and loneliness feeling which affect in turn PTSD and depression outcome. These tasks were tested through in-session and weekly exercises. On a weekly basis, participants were provided with a set of exercises related to exposure (in imago and in vivo) and monitoring their emotions states by noting all emotions felt and associated situations. In-sessions, participants were encouraged to share situations and emotions confronted during the week as well as decisions and behaviours adopted in such situations. Regarding social sharing, participants were educated to normalize their emotions and challenge the emotion driven behaviours. Through “*What if ...*” types exercises, participants were educated to shift from an emotion-focused “*What if.....*” and its automatic response such as “*I’m not capable or no one could help*” to the identification of surrounding resources.

Finally, this study evidenced that untreated survivors did not recover from PTSD and co-morbid disorders. A precedent pilot study reached the same conclusion.

Limitations

The findings of this study support the notion that a RFCBT intervention can improve PTSD and co-morbid depression symptoms. Yet, the evidences supporting treatment effect are with some limitations. The observed effects need a follow-up to ensure the maintenance of the treatment outcome. Future studies should also test the effectiveness of the treatment in comparing individual versus group setting.

Although some limitations are raised, this study demonstrated that focusing on rumination could have positive benefit in healing post-traumatic disorder in Rwanda. Yet, there are some initiatives taken countrywide to care for survivors with PTSD. However, there are too few studies assessing whether the treatments provided are efficient. In that respect, this study has proven that intervening on rumination is with great improvement for the patient with PTSD and co-morbid depression disorder.

References

- APA. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington DC: American Psychiatric Association.
- Barnard, P., Watkins, E., Mackintosh, B., & Nimmo-Smith, I. (2006). Cognitive and Experiential Ruminative Thoughts Scale (CERTS Process). *Unpublished*
- Ehlers, A., Clark, D. M., Hackmann, A., McManus, F., Fennell, M., Herbert, C., et al. (2003). A randomized controlled trial of cognitive therapy, a self-help booklet, and repeated assessments as early interventions for posttraumatic stress disorder. *Archives of General Psychiatry*, 60(10), 1024-1032.
- Ehlers, A., Mayou, R. A., & Bryant, B. (2003). Cognitive predictors of posttraumatic stress disorder in children: results of a prospective longitudinal study. *Behaviour Research and Therapy*, 41(1), 1-10.
- Gasparre, A., Bellelli, G., & Curci, A. (2006). Benefits of Social Sharing of Negative Emotional events: Construction of a Scale. *Abstracts Book of the Second European Conference on emotion, Louvain-La-Neuve(Unpublished)*.
- Groth-Marnat, G. (1990). *The handbook of psychological assessment* (2nd ed.). New York: John Wiley & Sons.
- Keane, T. M., Marshall, A. D., & Taft, C. T. (2006). Posttraumatic stress disorder: Etiology, epidemiology, and treatment outcome. *Annual Review of Clinical Psychology*, 2, 161-197.
- Michael, T., Halligan, S. L., Clark, D. M., & Ehlers, A. (2007). Rumination in posttraumatic stress disorder. *Depression and Anxiety*, 24(5), 307-317.

- Nills, D. (2003). *Le partage social des émotions : Déterminants interpersonnels de l'efficacité de la communication des épisodes émotionnels*. Unpublished Dissertation doctorale, Université Catholique de Louvain, Louvain, Belgique.
- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The UCLA PTSD Reaction Index for DSM IV (Adolescent version)*. Los Angeles: UCLA Trauma Psychiatry Service.
- Rimé, B. (2005). *Le partage social des émotions*. Paris: PUF.
- Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The Revised UCCLA Loneliness Scale - Concurrent and Discriminant Validity Evidence. *Journal of Personality and Social Psychology*, 39(3), 472-480.
- Sezibera, V., Van Broeck, N., & Philippot, P. (in Press). Intervening on Persistent PTSD: Rumination Focused Cognitive and Behavioural Therapy (RFCBT) in a Population of Young Survivors of the 1994 Genocide in Rwanda. *Journal of Cognitive Psychotherapy*.
- Watkins, E., Scott, J., Wingrove, J., Rimes, K., Bathurst, N., Steiner, H., et al. (2007). Rumination-focused cognitive behaviour therapy for residual depression: A case series. *Behaviour Research and Therapy*, 45(9), 2144-2154.

GENERAL DISCUSSION

In this section, we summarize the main results and point to perspectives for future research. Indeed, at the end of each chapter, results have been discussed and contributions highlighted. Hereafter, we only underscore the key results and their theoretical, empirical and clinical implications.

1. PTSD prevalence

Our results reveal a high prevalence of PTSD in the population of young survivors of the genocide in Rwanda. Given that data were collected about 12 years after the genocide, such prevalence reflects persistent posttraumatic distress. Already at the aftermath of the genocide, practitioners and scholars noted the precariousness of Rwandan post-genocide situation and predicted challenging psychological sequels, especially in the population of young survivors (Dyregrov, Gupta, Gjestad, & Mukanoheli, 2000). According to their observations, the traumatic exposure to the genocide and subsequent psychological sequels may last for long term.

Consistent with existing literature, war and ethnic cleansing situations predict high and persistent PTSD prevalence, particularly in young children and adolescents (see summary in Chapter 1, Table 2). Compared to peacetime, war and conflict situations expose to high prevalence rates of PTSD (Smith, Perrin, Yule, Hacam, & Stuvland, 2002).

Further, studies dealing with children and adolescents living in the physical and social surroundings of a postwar society indicate that the intensity of posttraumatic stress symptoms does not decrease even after a period of several years (e.g. Kinzie, Sack, Angell, Clarke, & Ben, 1989; Stein, Comer, Gardner, & Kelleher, 1999). The course of PTSD depends on an interaction between traumatic events exposure and vulnerability factors related to the posttrauma milieu (Kuterovac-Jagodic, 2003). The collapse of the community cohesion and the shattering of the psychosocial network in Rwanda expose survivors to a terrible sense of loneliness, insecurity, and unsafe environment. Our results are congruent with the assumptions that young survivors of the genocide living in unsecured family structures; mostly CHH and orphans in foster families are more vulnerable to persistent PTSD than others.

High PTSD prevalence from our research are warning about the critical mental health situation among young survivors of the genocide. Our cross-sectional and pilot studies have demonstrated that the development of PTSD symptomatology in Rwanda worsens over time (Chapter 6). Consistent with that finding, mental health providers' records attest that the number of treatment seekers increases impressively every year (see figures from the Report of Ministry of Health, 2005). Moreover, records from field practitioners in Rwanda emphasize the deterioration of the survivors' mental health each year and the increase in treatment seekers exhibiting complex symptoms pictures, that is from a classic PTSD diagnosis to a complex symptomatology including somatization (Gishoma & Brackelaire, 2008; Hagengimana, Hinton, Bird, Pollack, & Pitman, 2003) and depression (Bolton, 2003). According to the survivors associations' umbrella

IBUKA, cases of suicide are increasingly reported among survivors countrywide. Similarly, secondary schools are confronted with a disturbing situation of increased numbers of students displaying acute posttraumatic distress; the phenomenon being collective through an emotional outburst contagion.

Although that situation seems to be critical, mental health structures and monitoring mechanisms of the psychological consequences of the genocide are limited in Rwanda. That situation is rather due to the novelty of the phenomenon than willingness or awareness about the terrible impact of the genocide on people psychological wellbeing. The challenge includes lack of trained practitioners and increased number of treatment seekers. Further, it should be noted that the consequences of the genocide affect the entire population of Rwanda, survivors and perpetrators as well. Thus, traumatized adults would be ineffective in helping young traumatized unless the former deal first with their own posttraumatic distress. The shattered community structures are with detrimental impact on individual psychological wellbeing.

2. PTSD diagnosis limits

Although PTSD diagnosis is widely referred to, children psychotherapists have raised some critics on DSM criteria for PTSD diagnosis when it concerns young people and different traumatic situations, i.e. natural disasters versus man-made violence. These professionals emphasize that DSM criteria for PTSD are mostly adults centered. Children and adolescents may present symptoms in a different way as compared to adults. For instance, compared to adults, children and adolescents are more distressed when exposed

to trauma reminders (51 %) than adults (26 %) (Fletcher, 1996). Moreover, DSM criteria for PTSD diagnosis seem to be simplistic and don't capture all psychiatric sequels resulting from domestic and state-sponsored violence (Herman, 1992).

Presenting PTSD as a single disorder resulting from a trauma exposure is misleading. Our findings yield a strong association between PTSD and comorbid disorders. Foremost, and given the important attachment figures loss during the genocide, PTSD symptomatology interacts with grief reactions (chapters 2 and 4). That situation suggests a wider range of psychological sequels than that classified under the PTSD diagnosis. In fact, DSM IV criterion A (APA, 1994) for PTSD diagnosis associates indistinctly *witnessing violence and being confronted with an event or events that involved actual or threatened death or serious injury of self or others*. In our understanding, being exposed to violence and experiencing a death of close relative may lead to more disabilities than those included in the PTSD syndrome. In addition to PTSD symptoms evidenced in our analysis, survivors who witnessed birthparents murder are experiencing prolonged grief reactions regardless of the time elapsed. The interaction of PTSD and grief reactions undermines the adjustment from the genocide. Our data show explicitly how trauma and bereavement are embedded. Survivors are simultaneously confronted with horrific imagery from the genocide violence (witnessed and threatened with) and grief reactions associated with the loss of a close relative in traumatic circumstances.

Further, researchers interested in crime victims stress the limitation of the concept of PTSD in its capacity to capture the wide range of symptoms and alterations reported by man-made crime survivors. With the concept of Complex PTSD, Herman (1997) emphasizes that the current PTSD concept does not capture the severe psychological harm experienced by crime victims. Consistent with Herman's clinical observations, domestic abuse and political terror survivors may present specific symptoms that are not included in the current PTSD diagnosis. These symptoms include alteration in emotional regulation (e.g. persistent sadness, suicidal thoughts, explosive anger, or inhibited anger), alteration in consciousness (e.g. forgetting traumatic events, reliving traumatic events or having episodes in which one feels detached from one's mental process or body), changes in self-perception (e.g. a sense of helplessness, shame, guilt, stigma, a sense of being completely different than human beings); alteration in the perception of the perpetrator (e.g. attributing total power to the perpetrator or becoming preoccupied with the relationship to the perpetrator including a preoccupation with revenge); alteration in the relation with others (e.g. variation in personal relations including isolation, distrust, a repeated search for a rescuer); changes in one's system of meanings and beliefs (e.g. a loss of sustaining faith or a sense of hopelessness and despair).

In Rwanda, symptoms observed among survivors are primarily related to posttraumatic symptomatology but could not be reduced to PTSD label (Sebuhoro, 2005). Our observations are congruent with the assumption that genocide exposed to more sequels than those composing the traditional syndrome of PTSD. Congruent with our data, positive PTSD diagnosis is significantly associated with high scores to almost all of

the general mental pathology assessment scales. Such psychopathology pictures are consistent with the assumption that the genocide lead to secondary pathologies interacting with PTSD symptomatology. Or, it could also be that post-genocide vulnerability factors expose to additional disorders independently of the prior traumatic exposure. *In fine*, that strong relationship between PTSD and comorbid disorders should be rigorously and precisely explored.

The validity of PTSD concept remains questionable. Firstly, it is evident that multiple traumas exposure may lead to more disabilities than PTSD. Our data suggest the need of assessing PTSD together with grief reaction and how their interaction may complicate the adjustment. Our literature review indicates that PTSD and grief are usually addressed separately. Secondly, the relationship between PTSD diagnosis and trauma history is unclear. More precisions are needed to understand how PTSD is related to trauma history. For example, recent reports show that major depression patients without any trauma history present PTSD symptoms related to B-F criteria for PTSD (Bodkin, Pope, Detke, & Hudson, 2007). These authors found that clusters B-D symptoms are not specific to PTSD and that they could be caused by other factors than trauma history. Then, misdiagnoses of PTSD appear to be with key clinical and theoretical concerns. For instance, when survivors of mass killings are severely impaired by the symptoms they experience, they could be mistakenly diagnosed as major depression patient (or vice-versa), borderline or blamed unjustly of exaggerating their symptoms (Herman, 1997). Complying with that argument, posttraumatic symptomatology needs further precisions.

Posttraumatic syndrome diagnosis should be broader and more inclusive of additional impairments resulting from political violence and mass ethnic cleansings, e.g. grief reactions, anxiety, depression, or shattered assumptions (Janoff-Bulman, 1985). Regardless of the PTSD psychiatric formulation, state-sponsored violence results in multiples changes in other experiential life realms (Weine et al., 1998). As far as a broader understanding of the harm of the genocide is concerned; trauma-related changes includes family cohesion, ethnic identity, personal identity and life structure. That is, with or without PTSD diagnosis according to DSM IV criteria, other disorders can be quite evident after massive traumas following community violence.

3. Risky factors

A wealth of studies has demonstrated age (of the traumatised) and gender effects on the development of PTSD symptomatology (Maercker, Michael, Fehm, Becker, & Margraf, 2004; Reebye, Moretti, Wiebe, & Lessard, 2000; Vizek-Vidovic, Kuterovac-Jagodic, & Arambasic, 2000). Whereas other studies have found that PTSD prevalence is a function of subjective characteristics, our results didn't yield any significant effect of the age in predicting either PTSD or grief reactions. As discussed in our chapter 1 (point 4.3.1.), age and gender effect in PTSD development is controversial. For instance, relying on the notion of cognitive immaturity, developmental oriented studies have stated that the absence of cognitive sophistication in young children is protective against psychological trauma. Supposedly, as compared to young children, adolescents could be more vulnerable to psychological harm given their developmental maturity. All in all, this developmental hypothesis is questionable as it is proved that

children are sensitive to their environment even though they might not understand the magnitude of the traumatic event. Similarly, it seems that even young children are sensitive to death experience resulting in some grief reactions. Probably, the magnitude of the genocide and the on-going post-genocide stress are too large and prevent the apparition of any, more subtle, age effect.

Instead, our findings demonstrated that current family situation affects impressively the development of PTSD and comorbid disorders. In fact, social deprivation and reduced social support associated with family situation are thought to feed anxious and depressive symptomatology. It is demonstrated in our data (chapter 5) that orphans in foster families and CHH in Rwanda are exposed to various socioeconomic adversities evoking the genocide consequences, including losing one's parents. In CHH subgroup as the most socially affected group of survivors, PTSD is strongly associated with gender. Girls are reporting higher prevalence rate than boys (see Chapter 5). Our moderation analyses demonstrate a significant main effect of gender in predicting PTSD by the socioeconomic adversities and continuous genocide related threats.

The artificial CHH family structure is less protective and supportive in coping with post-genocide adversities. Referring to existing findings, it is well-established that social support (availability and seeking) is a protective factor for children and adolescents exposed to trauma and bereavement (Guay, Billette, & Marchand, 2006). Appropriate social support and adult guardianship can rebuild a sense of security and attachment ties.

4. Interventions

Surely, posttraumatic symptomatology is widely reported in the aftermath of traumatic experiences. Yet, all traumas victims don't develop psychiatric symptomatology and only a minority develops chronic psychological problems. Primarily, this clinical reality raises the need of identifying factors mediating the relationship between trauma history and PTSD development. Further, understanding the mechanisms and factors by which the disorder is maintained is beneficial in setting up appropriate interventions counteracting the pathological process underlying the disorder.

In our Chapter 5, a cross-sectional study of CHH survivors of the genocide (N=225) assessed socioeconomic adversities, genocide traumas reminders, coping strategies, PTSD and general mental pathologies. We hypothesized firstly that post-genocide socioeconomic adversities and traumas reminders predict the maintenance of PTSD and general mental pathologies. Secondly, we postulated that the effect of those predictors over PTSD is mediated by coping strategies. With regard to coping strategies, although participants can use other types of coping; i.e. cognitive reorganization, social sharing, behavioral avoidance and cognitive avoidance, our results demonstrated that rumination predicts significantly PTSD. Whereas earlier literature subsumed rumination under the re-experiencing symptoms of PTSD, it is evident that remembering the trauma (re-experiencing) and repetitively thinking about it (rumination) are functionally different in PTSD (Ehring, Frank, & Ehlers, 2008). As far as intrusive re-experiencing is defined to characterize cognitive processing during the trauma and trauma memory (Ehlers, Hackmann, & Michael, 2004), rumination is driven by negative appraisals of the trauma

and constitute an important cognitive strategy used by PTSD patients to control perceived threat associated with the problematic appraisals (Ehring, Frank, & Ehlers, 2008).

Congruent with our findings, rumination is reported to be a maintaining factor of PTSD in the population of young survivors of the genocide. This empirical result inspired our Rumination focused cognitive and behavioral therapy (RFCBT) and its effect was tested (see Chapters 6 & 7). Our treatment protocol rationale (see Annexe 1) was that challenging rumination related to negative appraisals of the genocide and its consequences, and promoting healthy thinking could impact favorably on PTSD and comorbid depression. Also, and given the social consequences of the genocide (e.g. shattered psychosocial functioning), a group format was presumed to promote and enforce social sharing.

Obviously the very exciting portion of our dissertation is its intervention part. Firstly, traumatic exposure and birthparent death from the genocide are with serious long-term psychological consequences. Secondly, that reality is challenging professionals and scholars in Rwanda on how to best handle traumas and grief consequences.

Practitioners in relation with responses to war, political violence and other forms of man-made disaster have voiced sound criticism on the export of western models in Third World countries (Bracken, Giller, & Summerfield, 1995). That criticism points to the inadequacy and ineffectiveness of the western psychotherapy models and the individual centered approach in cultures where symptoms meanings may differ from western

description and where the community plays an important role in individual regulation. The pioneers of such criticism advocated the use of traditional trauma therapy methods based on cultural and social traditions instead of the western ones.

In contrast, results from our studies (chapters 6 and 7) demonstrate a robust effect of a western-based psychotherapeutic model in alleviating PTSD symptoms and preventing the worsening of depression among groups in desperate need of mental health care. Firstly, our findings deserve possible use for policy decisions regarding psychological care for these multitraumatized young survivors.

Secondly, the group format of the treatment promoted social support and seems to have improved loneliness feelings. Our clinical observations are that the group format enabled emotions disclosure and social sharing. In this line, we agree with the notion that traumas must be viewed in their social context given the psychosocial roots and consequences of the genocide in Rwanda. Consequently, individual centered western psychotherapy can be tailored to Rwandan traditional and community based healing mechanisms to be more effective. For instance, the cultural rituals oriented to social connectedness and social support (e.g. *gusabana*) should be reinforced. Such signs of community integration are very important for the isolated CHH in Rwanda who lack supportive network and adult protection. Similarly, some negative products from the culture have to be replaced with new ones learned from scholar knowledge. For instance, emotion connection and expression is discouraged in the traditional Rwandan culture. Hence, given that emotion avoidance feeds rumination and results in more anxiety and

depression, treatment should challenge such cultural beliefs of retaining one's emotions and feelings.

Finally, considering the generalized effect of the genocide in Rwanda, these “individual centered” psychotherapies (individual or group format) could be sustained by additional “social centered” interventions. Community based interventions should be designed to counteract the impact of post-genocide vulnerability factors. Trauma reminders and ongoing threatening situations have to be addressed and thus relieve survivors from persistent fear and distressing anxiety.

Consistent with the broader understanding of the psychiatric sequels of the genocide in Rwanda, professionals oriented in trauma and grief interventions should supplement to their scholar psychotherapy practices more ingredients from the approaches of human right, community psychology, creative arts and interpretative social psychology (Weine et al., 1998).

References

- Bodkin, J. A., Pope, H. G., Detke, M. J., & Hudson, J. I. (2007). Is PTSD caused by traumatic stress? *Journal of Anxiety Disorders*, 21(2), 176-182.
- Bolton, P. (2003). Assessing depression among survivors of the Rwanda Genocide. In S. Krippner & T. M. McIntyre (Eds.), *The psychological impact of War Trauma on civilians. An international perspective*. Washington DC: Society for the Study of Peace, Conflict and Violence. Peace Psychology Division 48, American Psychological Association.
- Bracken, P. J., Giller, J. E., & Summerfield, D. (1995). Psychological Responses to War and Atrocity - the Limitations of Current Concepts. *Social Science & Medicine*, 40(8), 1073-1082.
- Dyregrov, A., Gupta, L., Gjestad, R., & Mukanoheli, E. (2000). Trauma exposure and psychological reactions to genocide among Rwandan children. *Journal of Traumatic Stress*, 13(1), 3-21.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345.
- Ehlers, A., Hackmann, A., & Michael, T. (2004). Intrusive re-experiencing in post-traumatic stress disorder: Phenomenology, theory, and therapy. *Memory*, 12(4), 403-415.
- Ehring, T., Frank, S., & Ehlers, A. (2008). The role of rumination and reduced concreteness in the maintenance of Posttraumatic Stress Disorder and Depression following Trauma. *Cognitive Therapy and Research*, 32, 488-506.

- Fletcher, K. E. (1996). Childhood posttraumatic Stress Disorder. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 242-276). New York: Guilford.
- Gishoma, D., & Brackelaire, J.-L. (2008). Quand le corps abrite l'inconcevable. Comment dire le bouleversement dont témoignent le corps au Rwanda ? *Cahiers de Psychologie Clinique*, 1(30), 159-183.
- Goenjian, A. K., Karayan, I., Pynoos, R. S., Minassian, D., Najarian, L. M., Steinberg, A. M., et al. (1997). Outcome of psychotherapy among early adolescents after trauma. *American Journal of Psychiatry*, 154(4), 536-542.
- Guay, S., Billette, V., & Marchand, A. (2006). Exploring the links between posttraumatic stress disorder and social support: Processes and potential research avenues. *Journal of Traumatic Stress*, 19(3), 327-338.
- Hagengimana, A., Hinton, D., Bird, B., Pollack, M., & Pitman, R. K. (2003). Somatic panic-attack equivalents in a community sample of Rwandan widows who survived the 1994 genocide. *Psychiatry Research*, 117(1), 1-9.
- Herman, J. (1997). *Trauma and Recovery. The aftermath of violence from domestic abuse to political terror* (2nd ed.). New York: Basic Books.
- Janoff-Bulman, R. (1985). The aftermath of victimization: rebuilding shattered assumptions. In C. R. Figley (Ed.), *Trauma and its awake* (pp. 15-35). New York: Brunner-Mazel.
- Kinzie, J. D., Sack, W., Angell, R., Clarke, G., & Ben, R. (1989). A 3-Year Follow-up of Cambodian Young-People Traumatized as Children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 28(4), 501-504.

- Kuterovac-Jagodic, G. (2003). Posttraumatic stress symptoms in Croatian children exposed to war: A prospective study. *Journal of Clinical Psychology, 59*(1), 9-25.
- Maercker, A., Michael, T., Fehm, L., Becker, E. S., & Margraf, J. (2004). Age of traumatisation as a predictor of post-traumatic stress disorder or major depression in young women. *British Journal of Psychiatry, 184*, 482-487.
- Reebye, P., Moretti, M. M., Wiebe, V. J., & Lessard, J. C. (2000). Symptoms of posttraumatic stress disorder in adolescents with conduct disorder: Sex differences and onset patterns. *Canadian Journal of Psychiatry-Revue Canadienne De Psychiatrie, 45*(8), 746-751.
- Sebuhoro, C. (2005). Sequellae of genocide in Rwandese adolescent. *Archives De Pediatrie, 12*(6), 880-882.
- Smith, P., Perrin, S., Yule, W., Hacam, B., & Stuvland, R. (2002). War exposure among children from Bosnia-Herzegovina: Psychological adjustment in a community sample. *Journal of Traumatic Stress, 15*(2), 147-156.
- Weine, S. M., Becker, D. F., Vojvoda, D., Hodzic, E., Sawyer, M., Hyman, L., et al. (1998). Individual change after genocide in Bosnian survivors of "ethnic cleansing": Assessing personality dysfunction. *Journal of Traumatic Stress, 11*(1), 147-153.

ANNEXE

Annexe 1. Group-based rumination focused cognitive and behavioural therapy research protocol

1. Raisonnement

La persistance du PTSD, et la dépression qui est lui est comorbide, s'est avérée associée à la stratégie de rumination (Michael, Halligan, Clark, & Ehlers, 2007). Les études cliniques montrent que les personnes qui ruminent ont une perception biaisée des causes et des conséquences de ce qui leur arrive (anxiété et dépression) et leur attention est plus portée vers le matériel anxiogène et dépressif. Une telle perception induit un sentiment de menace continue/permanent et des sensations physiologiques induites par la menace perçue. Le sentiment de menace permanente est associé à des intrusions anxieuses et de stratégies d'évitement observées comme corolaires du PTSD. Par ailleurs, la perception d'un support social s'est avérée bénéfique au rétablissement du PTSD. Par là, les personnes qui perçoivent que l'environnement constitue un support direct et émotionnel se remettent progressivement du PTSD. Identifiant les facteurs de vulnérabilité au PTSD persistent, il est apparu que les sujets sans soutien social ou qui ne perçoivent pas de support social dans leur environnement était plus à risque que d'autres (Mirzamani, 2006). On notera que le support social comprend le support social direct (matériel) et le support émotionnel. Cependant, pour bénéficier du support social, il faut d'abord que le soutien social soit disponible (social support availability), la personne perçoive le bénéfice dans le support social (perceived benefit) et demande le soutien (social support seeking). Pourtant, les personnes souffrant du PTSD ont tendance à percevoir leur environnement comme menaçant et dangereux. De cette façon, elles ont tendance à se soustraire de cet environnement perçu comme aversif conduisant à un

sentiment énorme de solitude. Nous pensons qu'une thérapie qui serait centrée à agir au niveau de la rumination pourra aussi promouvoir la perception du bénéfice dans le support social. Cette amélioration serait susceptible d'affecter la symptomatologie posttraumatique et dépressive.

Considérant que la rumination constitue un moteur central dans le développement et le maintien du PTSD (Ehlers et al. 1998, 2000, 2003) et de la dépression (Watkins et al., 2007), le changement dans la nature et le contenu des ruminations a une incidence sur les symptômes post-traumatiques et de la dépression. L'amélioration au niveau de la perception de menace permanente, et le sentiment d'inefficacité vis-à-vis de la situation, améliore certains processus actifs associés au PTSD et à la dépression. Ces processus sont entre autres l'anxiété vis-à-vis des indices de rappel du trauma et l'évitement de ces indices de rappel pour réduire l'anxiété, le sentiment de solitude, la perception du bénéfice du partage social.

2. Procédure

Les participants sont recrutés de la population des enfants et adolescents orphelins du génocide. Pour des modalités pratiques (accès facile aux sujets, assurance des participants), le recrutement se fait au niveau des écoles secondaires à travers les associations travaillant avec les orphelins au Rwanda. Ces associations sont le *Hopes and Homes for children*, *Association des Elèves Rescapés du Génocide (AERG)*. Une invitation est lancée pour une participation à la recherche en passant par les coordinateurs de ces associations. Les volontaires peuvent s'inscrire et sont invités par la suite à remplir

le questionnaire de diagnostic du PTSD. Une séance sera organisée pour expliquer les consignes pour remplir le questionnaire.

Seuls les sujets qui satisfont aux critères d'inclusion seront retenus pour la recherche.

- Critères d'inclusion

Pour être éligibles, les sujets doivent satisfaire à tous les critères suivants :

- histoire d'une exposition traumatique (critère A du DSM IV pour un diagnostic du PTSD) (seuls les rescapés du génocide sont retenus) ;
- âge au moment du génocide : 1 à 18 ans
- satisfaire aux critères de diagnostic du PTSD (DSM IV; APA 1994).
- consentement à participer à toutes les séances thérapeutiques et à s'y investir entièrement (Formulaire de consentement et Echelle de détermination à faire la thérapie).

- Critères d'exclusion

Ne sont pas éligibles pour cette recherche :

- les sujets qui suivent un autre traitement psychologique et/ou psychiatrique
- les sujets qui au cours de l'année précédente ont eu une/des crises post traumatiques importantes (requérant l'hospitalisation ou l'arrêt momentané du suivi des cours)

3. Participants

Les sujets présentant un diagnostic primaire du PTSD peuvent participer à la recherche. Ainsi, les sujets répondant aux critères de diagnostic du PTSD (voir chapitre 1) sont repartis aléatoirement en groupe traitement et groupe contrôle.

- Condition contrôle (19 sujets)

Ce groupe ne bénéficie d'AUCUN TRAITEMENT, pas même une constitution d'une dynamique de groupe. Ce groupe doit être différent d'une liste d'attente, pas de traitement envisagé. A l'aide d'un intervenant indépendant, le groupe contrôle sera sollicité pour répondre aux différents questionnaires de l'étude. Les sujets seront évalués aux différents temps de l'évaluation du groupe traitement.

- Condition traitement (19 sujets)

Les sujets ayant satisfait aux critères de diagnostic du PTSD seront soumis à des sessions thérapeutiques (minimum 8 séances) afin d'évaluer l'effet de la thérapie sur les symptômes du PTSD et de la dépression. L'évaluation contrôlera l'effet de (a) l'exposition à des indices de rappel du trauma, (b) la rumination, (c) le partage social sur les symptômes du PTSD et la dépression.

Les participants seront évalués aux trois temps de l'étude : pre-traitement (séance 1), post-traitement (2 semaines après le traitement), et au follow-up (2 mois, 6 mois, etc). Les mesures à prendre concernent la prévalence du PTSD, la dépression, et les processus actifs associés à la rumination dont l'anxiété et l'évitement au contact avec les indices de rappel du trauma, les bénéfices du partage social, le sentiment de solitude et le contenu de

la rumination. Les 15 sujets peuvent être subdivisés en 2 ou 3 petits sous-groupes pour faciliter l'interaction en sous-groupes.

4. Mesures et outils

- PTSD : UCLA PTSD (17 items ; Pynoos et al., 1998)
- Dépression : BDI (version réduite, 13 items ; Groth-Marnat, 1990)
- Ruminative thoughts: CERTS, (*Cognitive Experiential and Ruminative Thoughts Scale*, 16 items; Barnard, Watkins, Mackintosh, & Nimmo-Smith, 2006
- Anxiety (26 items) and avoidance (26 items) towards trauma reminders: Situational and Emotional Exposure scale (designed)
- Social Sharing Benefit: Perceived Social Sharing Benefit scale (20 items, Gasparre, Bellelli, & Curci, 2006)
- Loneliness: UCLA Loneliness scale (revised version, 10 items; Russell, Peplau, & Cutrona, 1980).

5. Contenu des séances thérapeutiques

- Contenu

Les séances comportent principalement une psychoéducation au trauma et au PTSD, l'exposition aux indices de rappel du trauma, à l'analyse fonctionnelle et des alternatives à la rumination et au partage social. Le modèle thérapeutique proposé a aussi la particularité d'exercer déjà en séances les participants au partage social.

- Durée et fréquence

Les séances dureront entre 1h30 et 2h00 au maximum et à intervalle d'une semaine chacune. Une fréquence hebdomadaire donnera du temps pour que les participants intègrent les acquis de la séance précédente. Aussi, les participants auront une semaine pour faire les exercices proposés pour la semaine.

Séance 0 : Séance d'information

N.B. Il va de soi que cette séance d'information est réservée seulement au groupe thérapeutique.

Objectifs

- Se présenter aux participants : nom et prénom, formation, profession, intérêts et domaines de recherche,
- Donner des informations relatives à la thérapie : type (thérapie cognitive de groupe), nombre de séances ($\pm$ 8 séances), des modalités pratiques (exercices en séances et à domicile), intérêt (apport pour le client d'une part et d'autre part des gains pour la recherche), participation : il est très recommandé de participer à toutes les séances.
- Acquérir le consentement libre et éclairé pour la participation à la thérapie.
-

Description de la séance

Les sujets assignés aléatoirement au groupe thérapeutique seront invités à une séance d'information. Ainsi, la première séance (séance 0) sera une présentation de la

recherche à la fois pour informer le groupe des objectifs de la recherche et solliciter leur consentement libre et éclairé à participer au groupe thérapeutique. Au cours de cette séance, les sujets qui ne souhaitent pas s'engager dans une telle démarche peuvent toujours quitter le groupe. Il sera clairement précisé qu'en acceptant d'appartenir à ce groupe, on s'engage au même moment à aller jusqu'au bout du processus.

Verbatim

« Je m'appelle, je suis psychologue, enseignant au Département de Psychologie clinique, UNR, chercheur et doctorant à l'UCL, m'intéresse aux conséquences du génocide dont le PTSD. Le PTSD est l'une des conséquences du génocide et la manifestation des symptômes varie d'une personne à l'autre et à des degrés variables. De même, les personnes réagissent différemment aux symptômes, certaines vont demander de l'aide tandis que d'autres préfèrent se taire et vivent en silence leurs difficultés. Par ailleurs, certaines personnes trouvent que le fait de parler de leurs difficultés, à une tierce compétente et bienveillante, a des bénéfices sur le bien-être du sujet. Dans le cadre de ma thèse, je recrute des sujets pour organiser ensemble des séances thérapeutiques où chacun sera amené à parler de son expérience du génocide, de sa vie actuelle, des difficultés liées au génocide et de la manière dont il les gère. Pour des intérêts de la recherche, ceux qui acceptent de participer à la thérapie il leur sera demandé de temps en temps de remplir certains questionnaires. Pour le respect de la confidentialité, l'anonymat sera respecté dans le traitement et la gestion des données collectées. Merci »

Activités en séances

- Laisser les participants poser des questions de compréhension sur la thérapie et y répondre.
- Ceux qui acceptent de faire partie du groupe, leur remettre un questionnaire sur la motivation et le formulaire de consentement éclairé. Les deux documents seront retournés à la séance suivante.

Tâches à domicile

- Remplir les deux questionnaires (Formulaire de consentement + Motivation à la thérapie) ;
- Réfléchir pendant la semaine sur la/les difficulté (s) que tu voudras travailler pendant les séances thérapeutiques (précision sur la motivation et contrat de changement) ;

Séance 1 : Constitution du groupe thérapeutique

Description de la séance

Une thérapie de groupe dépend de la dynamique du groupe c-à-d de la qualité des interactions en groupe et du bénéfice que chacun tire de celles-ci. Ainsi, la première chose à faire est la consolidation des assises du groupe pour celui-ci aidant pour ses membres.

Objectifs

- Faire connaissance : nom, prénom, famille,
- Parler du groupe : bénéfices/contraintes/attentes d'un travail en groupe
- Convenir du contrat thérapeutique : anonymat des données, confidentialité, bienveillance, pas d'agression, vérité et authenticité, ponctualité et assiduité, implication, restitution, engagement au changement,
- Exposer ses attentes : parler des difficultés qu'on aimerait travailler pendant les séances thérapeutiques (comment la personne pense faire et qu'est-ce qu'elle attend des autres pour qu'il arrive au changement souhaité).

Verbatim

« Bonjour, bienvenue à notre première séance thérapeutique. Egalement, je vous remercie pour votre accord de participer à cette recherche. La thérapie comportera plus ou moins 8 séances, d'un jour par semaine.

Au cours de séances, chacun a droit à la parole, nous agissons et réagissons dans le respect de nous-mêmes et des autres c'est-à-dire pas d'agression, avec bienveillance. Aussi, pendant les séances nous pouvons nous permettre de ressentir et d'exprimer nos émotions. Tout un chacun peut donner et recevoir des marques d'affection et d'encouragement pendant les séances thérapeutiques. Pendant les séances, nous pouvons nous « tutoyer ».

Pour construire notre groupe thérapeutique, nous allons nous présenter les uns aux autres : Quel est ton nom et prénom ? ta classe ? ta famille/secteur/district/province d'origine et d'habitation ?

[Entre-acte : Exercice : ta/ton animal/couleur/activité/période/chant/personnage préféré. Ici les participants pensent à un animal/objet/ préféré auquel ils s'identifient ; parlent des qualités et faiblesses du totem]. Cet exercice permet d'approfondir la présentation et d'aller au-delà du nom.

Après cette présentation, je souhaite que nous parlions de nos attentes vis-à-vis de ces séances thérapeutiques. La semaine passée vous avez réfléchi à une difficulté que vous observez chez vous comme conséquence du génocide et que vous aimeriez changer au cours de ces séances thérapeutiques. Je propose que nous échangions ensemble pour voir ensemble en quoi les objectifs de cette recherche rejoignent nos attentes personnelles ? c'est quoi ta difficulté à travailler ? quels sont les signes ? quelles sont les situations qui déclenchent la difficulté ? quelle est la durée de la difficulté ? Quelle implication dans ta vie familiale/scolaire/amicale/sociale ? comment fais-tu pour faire face ? quel est le résultat à court et à long terme de ta stratégie utilisée ? quels seraient pour toi les indicateurs de changement après la thérapie ? comment tu te sens maintenant que tu en parles ? (En cas d'émotions à l'évocation d'une situation difficile) Qu'est-ce que les autres vous avez envie de dire à votre collègue ? Merci »

Tâches à domicile

1. Etre attentif à sa difficulté au courant de la semaine
2. Remplir les questionnaires :
 - UCLA PTSD
 - BDI
 - CERT
 - Situational and Emotional Exposure scale
 - Social Sharing Benefit scale
 - UCLA Loneliness Scale

Séance 2 : Psychoéducation sur le trauma et le PTSD

Description de la séance

Cette séance vise une prise de conscience de l'importance du génocide sur la vie de tous les jours et la spécificité du PTSD comme conséquence du génocide. Les symptômes post-traumatiques sont perçus différemment selon les personnes, de même les stratégies utilisées pour y faire face sont variables tant dans leur nature que dans leur effet sur le développement des symptômes post-traumatiques. Par ailleurs, les sujets qui comprennent que les symptômes sont fonction de l'importance de l'événement traumatique, et que l'issue pathologique n'est pas fatal, peuvent accroître leurs ressources psychologiques pour faire y face. Au cours de la séance, des informations précises sur les manifestations symptomatologiques du PTSD seront fournies pour corriger celles erronées que les participants auraient vis-à-vis de leur ressenti. La vraie information

fournie pour modifier les pensées par rapport à soi-même et pour rapport au pronostic de son mal-être.

Objectifs

- Expliquer ce que c'est le « trauma » du génocide
- Décrire et « Normaliser » les symptômes du PTSD

Verbatim

« Bonjour, ... la séance d'aujourd'hui, comme d'habitude, nous allons commencer par les nouvelles de la semaine. Comment tu as passé ta semaine ? Comment as-tu trouvé les exercices à domicile ? Qu'est-ce qui a été facile versus difficile ? Quels souhaits pour améliorer la session d'aujourd'hui ? La séance d'aujourd'hui va être centrée sur le génocide et les conséquences de celui-ci sur la vie actuelle des survivants. Qu'est-ce qui a caractérisé le génocide au Rwanda ? Quel est ton expérience du génocide ? Quelles sont les conséquences du génocide sur la santé de survivants ? Que sais-tu du PTSD : signes/symptômes ? Et toi-même, y-a-t-il des manifestations du PTSD qui sont présentes chez toi ? Les quelles ? Qu'est-ce qui déclenchent ces symptômes/crises ? Quelle est leur fréquence ? Durée de la crise ? Conséquences ? Comment la crise se termine ?

En effet, l'exposition à un événement traumatique comporte des conséquences diverses et variées. Le trouble du stress post-traumatique (PTSD) en est un de cas, et certains sujets développent un PTSD chronique alors que d'autres s'en remettent après

quelques mois. En plus des facteurs objectifs liés à l'événement (sévérité, l'importance de la menace), il existe des facteurs subjectifs de maintien et de chronicité des symptômes du PTSD à savoir les stratégies de coping dont la rumination. Avec la rumination les gens pensent toujours au pire et exagèrent ainsi la sévérité des symptômes vécus. Mais la situation peut n'est pas être si dangereuse qu'on le croit. Egalement, certaines gens préfèrent se taire et souffrir en silence. D'autres demandent conseil comment faire et demandent à d'autres de les y aider. Les personnes qui demandent de l'aide présentent des améliorations que celles-là qui se taisent et ne demandent de l'aide ou du conseil.

Tâches à domicile

- Surveiller la manifestation des symptômes du PTSD tout au long de la semaine
- Identifier les situations, les personnes, les objets, les places, les moments, les sensationsqui déclenchent chez toi ces symptômes ;

Séance 3 : Exposition aux situations et émotions liées au vécu du génocide.

Description de la séance

Il est fréquemment rapporté que les sujets avec un PTSD sont terrassés par une énorme anxiété quand ils sont au contact avec les indices de rappel le trauma initial. Ils perçoivent, par rumination, que ces indices sont aussi menaçants au même titre que le trauma auquel ils ont été exposés. Pour réduire et échapper à cette anxiété, les sujets adoptent différents comportements d'évitements y compris l'évitement cognitif (distraction, dissociation). Pourtant, l'évitement au lieu de réduire l'anxiété il y

prédispose. La séance vise progressivement l'exposition à de telles situations et réduire cette tendance à l'évitement cognitif et comportemental.

Objectifs

- Identifier les situations associées au génocide et jugées inquiétantes par le sujet dans sa vie de tous les jours.
- Faire une topographie de ces situations/pensées/émotions/comportements

Verbatim

« Bonjour, ... Pendant la semaine tu as fait un suivi des situations qui t'inquiètent et te peinent car elles ravivent la mémoire traumatique du génocide. A ces situations sont associées des émotions et des comportements adoptés pour échapper à la douleur déclenchée par ces situations. Je propose maintenant que chacun restitue aux autres les résultats de l'exercice de la semaine passée. quoi ? (quel comportement/situation), Combien ? (Fréquence), où ? (Dans quel contexte se produit le comportement), Quand ? (quels déclencheurs), Comment ? (Quels symptômes/manifestations) ? Quels comportements adoptés (fight, flight, freeze)?

Pourquoi est-il très important de faire quotidiennement cet exercice ? Au fait, quand nous sommes anxieux, nous pouvons nous rendre seulement compte que l'anxiété a été soudaine et inattendue, ou seulement nous nous en rendons compte quand l'anxiété a graduellement atteint un niveau élevé. Avec l'exercice, nous pouvons constater en effet

que l'état d'anxiété est un processus. Par exemple, tu peux remarquer que quand tu t'inquiètes de quelque chose, alors tes mains deviennent « moites » ou la gorge qui sèche. Alors tu remarques que ton cœur bat très vite et alors tu t'inquiètes beaucoup. Je voudrais donc que tu te familiarises avec ces premières indications. Qu'est-ce que tu as constaté pendant l'exercice de la semaine? As-tu remarqué la relation entre les trois composantes de l'anxiété : pensées-émotions-comportements ? qu'est-ce que tu avait l'habitude de faire quand tu étais anxieux ?

En fait, l'anxiété forme une spirale d'interactions entre les pensées, les images, les sentiments et les sensations corporelles. Vu le caractère douloureux du ressenti, les gens préfèrent éviter à tout prix ces situations. Pourtant, il est presque quasi-impossible de les éviter totalement. Il est plutôt conseillé de s'y confronter pour autant qu'on puisse le faire (càd n'est pas trop éviter !!!). »

Tâches à domicile

Il est demandé au sujet de surveiller tout au long de la semaine la situation/images/sentiments ayant déclenché une anxiété ou une détresse.

- Identifier tout au long de la semaine les situations/pensées/images jugées inquiétantes/angoissantes
- Noter les pensées/ sentiments/émotions que tu as eus par rapport à la cause/circonstances et les conséquences de cette situation ;
- Noter les sensations corporelles que tu as ressenties pendant cette situation
- Dites en bref comment tu as fait pour te sortir de cette situation.

Séance 4 : Exposition à la mémoire et indices de rappel du génocide

Description de la séance

Au cours de la séance, les sujets seront amenés à parler de leur expérience du génocide. Au même moment, les sujets pourront distinguer les situations les plus difficiles à évoquer et qu'ils évitent les plus. En séances, ils seront exercés à une exposition par la narration, et par l'exercice ils pourront procéder par exposition in vivo (en situation). Au cours de la séance, le sujet choisira une situation qu'il évite et à laquelle il pourra se confronter tout au long de la semaine. En effet, l'exposition permet au sujet d'apprendre que les situations ne sont pas si redoutables qu'ils le croyaient.

Objectifs

- encourager le sujet à une confrontation au souvenir et émotions liés au génocide
- encourager le sujet à identifier et à rompre avec les comportements d'évitement, même subtils, qui renforcent la détresse post-traumatique,

Verbatim

« Tout au long de la semaine, tu as fait l'exercice de l'identification des situations/pensées/images liées au génocide et les pensées/sentiments/émotions que tu as vécues. Alors, nous allons commencer par une restitution sur cet exercice. A quelle situation/pensée/image as-tu été confrontée ? Quelles pensées/sentiments/émotions ? Comment as-tu fait pour gérer la situation/pensée ? »

Aujourd'hui, nous allons plus parler de notre vécu du génocide. qu'est-ce que tu as vécu pendant le génocide ? Mon histoire du génocide. Comment tu te sens après avoir parlé de ton expérience du génocide ? As-tu l'habitude d'en parler ? y-a-t-il une différence entre maintenant et avant dans la façon de parler de ton expérience du génocide ? Pourras-tu en parler prochainement comme tu le fais maintenant ? (Encourager les participants à se donner les marques d'affection en cas de difficultés majeurs. Par exemple, tendre un mouchoir au collègue qui est triste et pleure ; ou tenir l'autre sur l'épaule comme on en a l'habitude de faire dans la vie de tous les jours).

Tâches à domicile

Demander aux participants de choisir une situation qu'ils évitent souvent car elle rappelle la mémoire du génocide et de s'y confronter volontairement tout au long de la semaine.

Séance 5 : les ruminations

Description

La séance porte sur les stratégies de coping utilisées par les sujets à la fois pour faire face aux conséquences directes du génocide (symptômes post-traumatiques) et aux situations qui le rappellent. La séance s'intéressera à la rumination et les sujets seront invités à parler de leurs ruminations, les situations qui le déclenchent, leur nature, le bénéfice et leur efficacité. La séance devra permettre aux participants de réaliser que l'effet de la rumination n'est pas durable.

Objectifs

- Identifier les stratégies utilisées par le sujet pour faire face aux situations anxiogènes (souvenirs/images/sentiments du génocide)
- Analyser avec le sujet les significations et les fonctions des ruminations
- Apprécier les formes et les bénéfices des ruminations
- encourager le sujet à identifier et à rompre avec les comportements d'évitement dictés par la rumination, même subtils soient-ils (exemple : chanter ou prier pour occuper l'esprit, éviter de penser à la situation)

Verbatim

« Bonjour, nous allons commencer la séance avec des nouvelles de la semaine. Alors, je vais demander à chacun de rapporter en groupe les résultats de l'exercice de la semaine passée. Quelle est la situation de l'exposition ? Comment as-tu procédé ? Qu'est-ce qui était facile/difficile ? Est-ce qu'il y a une différence entre le moment où tu as évité la situation et cette semaine où tu t'es confronté à la situation ? (Donner des exemples).

Merci à vous tous pour ce que vous avez fait comme exercice, et je vous encourage à essayer d'autres situations et ensuite faire l'évaluation de ce que vous avez gagné en vous confrontant à la situation.

Aujourd'hui, nous allons réfléchir sur les types de stratégies que les personnes utilisent pour éviter, échapper ou se soustraire à des situations qui leur paraissent

stressantes. Ces stratégies peuvent être des idées ou des comportements qu'on adoptent pour réduire l'anxiété ou anticiper la situation anxieuse. Alors, (Mathieu...), dans ta situation, comment tu te sens quand tu te trouves dans cette situation ? comment tu fais pour réduire la peine ? quel est le succès de ta stratégie ? Est-elle toujours la même ou alors il y a lieu de recourir à plusieurs stratégies pour une même situation ? Il ya des personnes, qui, pour réagir à des situations, ruminent beaucoup càd réfléchissent beaucoup à ce qui leur est arrivé et aux conséquences de l'événement. Vous arrive-t-il aussi de recourir à cette forme de stratégie ? Comment tu rumines càd les idées qui passent par la tête ? Comment tu te sens quand tu rumines (sensations corporelles) ? Quels sont les bénéfices (durée) et les limites de cette façon de faire ? »

Des questions clés à utiliser pour une analyse fonctionnelle de la rumination (E. Watkins).

CONTEXTE

- T'arrives-t-il de ruminer/d'être préoccupé/ avoir des choses qui te bourrent la tête et qui te paraissent difficiles à se débarrasser ?
- Quels sont les événements ou situations qui déclenchent ces pensées récurrentes ?
- Qu'est-ce que t'es en train de faire quand ce genre de pensées commence ?
- Dans quelles conditions tu rumines ou pas ?
- Quand, où, avec qui tu rumines ?
- Quels types de questions tu te poses à toi-même ?
- Quelles situations mettent fin à tes ruminations ?

UTILITE

- Peut-on voir ensemble la façon dont tu fais cela ?
- Quelle est la fonction de ce comportement (à quoi sert la rumination)?
- Quelles sont les conséquences de ce comportement ?
- Quel est le pour et contre de faire cela (ruminer)?
- Qu'est-ce que tu tentes d'éviter avec ce comportement ?
- A quel objectif/but sert-il?
- Qu'est-ce que tu gagnes/évites en restant/demeurant dans cette situation de rumination ?

DEVELOPPEMENT

- Depuis combien de temps as-tu cette tendance à ruminer?
- Quand est-ce que cette tendance à la rumination a commencé?
- Peux-tu te souvenir la fois que tu as ruminé ?
- Qu'est-ce qui s'était passé à ce moment là?
- Où ou à partir de qui tu as appris cette façon de réagir ?

Tâches à domicile

- Se servir du formulaire « Self-monitoring of rumination » pour surveiller les ruminations et les situations qui les déclenchent.
- Se confronter à ces situations au lieu de les éviter ;

Séance 6 : identification des alternatives a la rumination

Description de la séance

La thérapie repose sur une analyse fonctionnelle du comportement caractéristique de la rumination. Cette analyse permet d'examiner le contexte et les fonctions des ruminations d'une part et d'autre part de réaliser un plan d'autres éventualités/alternatives à ces stratégies de rumination et d'évitement. La séance développe avec les sujets d'autres stratégies alternatives à la rumination et de changer la nature/le contenu de la rumination (rumination analytique versus rumination expérientielle). Les sujets sont encouragés à surveiller leur rumination. La conscience élevée de l'habitude est cruciale pour changer cette habitude. De plus, pour beaucoup des sujets, être conscients de ce qu'ils sont en train de faire est en soi efficace/suffisant pour eux pour quitter/abandonner cette forme de réponse. La conscience des signes d'avertissement (signaux d'alerte) donne une opportunité pour « évincer la rumination en son début ». Les sujets sont encouragés à fouiller/scruter/anticiper les signaux d'alerte.

Objectifs

- Découvrir avec les participants que la rumination est une stratégie inefficace
- Identifier et tester d'autres alternatives comme stratégies de coping adaptatives de substitution aux ruminations
- encourager le sujet à identifier et à rompre avec les comportements d'évitement qui renforcent la rumination, même les plus subtils,

Verbatim

« Bonjour. Avec l'exercice de la semaine passée, tu as surveillé les ruminations et les situations qui les déclenchent. A présent, nous allons plus partager du contenu, de la durée, de l'effet (positif ou négatif) des ruminations. Comment se déclenchent les ruminations pour toi ? Sur quoi ton attention est focalisée dans les ruminations ? Quel est l'objectif visé ? Quel en est le résultat ? Quel degré de satisfaction ? Quelle serait l'autre alternative à la rumination ? Qu'est-ce qui peut interrompre ou stopper la rumination ?. Qu'est-ce qui t'as paru différent en restant pensif sur une chose pendant longtemps versus pendant un temps cours? Qu'est-ce qui est différent quand tu es resté (pensif) sur tes problèmes, à tourner autour sans trouver de progrès et les temps où ces pensées ont conduit à quelque chose d'aidant, de bénéfique ? Qu'est-ce que tu fais pour stopper la rumination ? Cela marche-t-il ? Qu'est-ce qui peut interrompre ou stopper les ruminations ? Peux-tu reporter ou retarder la rumination? Comment la rumination finit-elle ou arrive à sa fin ? Qu'est-ce qui s'est passé avant que tu ne stoppes de ruminer ? »

Tâches à domicile

Continuer l'exercice de la surveillance de ruminations et d'essayer d'autres alternatives à la rumination (Par ex. Au lieu de s'isoler seul à penser à ces problèmes (ruminer), décider de se changer des idées avec d'autres ; ou alors à la place des idées comme « ma vie est gâchée pour de bon », se dire par exemple « je suis capable de bien de choses, par exemple les études », etc.).

Séance 7 : Partage social (1)

Descriptions de la séance

Le sentiment de solitude et d'isolement est symptomatique du PTSD. De plus, la solitude expose le sujet à la rumination et l'empêche donc de bénéficier des ressources disponibles dans son environnement. Pourtant, il apparaît que le partage social, au-delà de sa conception « d'évacuation du trop-plein »⁶ des émotions, permet des bénéfices secondaires, comme par exemple le soutien social et émotionnel, la restructuration cognitive (percevoir autrement la réalité), autant des gains qui modifient la nature et le contenu des ruminations.

Objectifs

- encourager le sujet à identifier et à rompre avec les comportements subtils d'évitement
- Identifier dans l'environnement des potentialités pour un soutien social
- Encourager le partage social des expériences et des émotions entre les participants pour rompre avec la rumination ;
- Susciter le sentiment d'appartenance pour réduire le sentiment de solitude inhérent au PTSD ;

Verbatim

« Bonjour, ... Dans nos deux sessions précédentes, nous avons parlé des ruminations et des alternatives aux ruminations. Et la semaine dernière, il était demandé à tout un chacun d'essayer une alternative, par exemple parler à une tierce personne de son

⁶ Rimé, B(2005). Le partage social des émotions. Paris, PUF.

problème. Alors, comment cela s'est passé pour toi? (Gilbert), ... la situation stressante ? Qu'as-tu fais ? Pris le temps d'y penser ? La durée de ta réflexion ? Qu'as-tu fais après ? quel a été le gain (effet de l'action alternative) et la durée ? Quelle différence entre le fait de se taire/ruminer et le fait de partager avec d'autres ? Quel rapport avec ton vécu/situations (émotions, pensées, sensations physiologiques, la résolution du problème) ?

Aujourd'hui, nous allons plus parler du partager social : « Parler de son problème à quelqu'un d'autre ». Vous arrive-t-il de parler de vos difficultés à quelqu'un d'autres ? A qui parles-tu ? De quoi tu lui parles ? Quelles conditions pour se confier à une tierce personne ? Parles-tu de ton expérience du génocide ?, Avec qui ? A quelle fréquence ? En quoi le fait d'en parler à une autre personne t'a été utile ou pas ?»

Tâches à domicile

- S'exercer au partage social : « ex. j'ai un problème ou bien je pense à .../ je suis triste/peur/colère ; que puis-je faire ? A qui je peux m'adresser pour m'aider à résoudre le problème ?»

Séance 8 : Partage social (2)

Description

Cette séance sera la dernière et elle constitue une récapitulation des séances thérapeutiques. Les sujets seront amenés à prendre conscience de ce qui a changé et de ce qui reste à faire. Les sessions ayant été organisées en groupe, il sera aussi question de voir ce en quoi le « groupe » constitue ou pas un support social. Enfin, cette session préparera les sujets à mettre fin au contrat thérapeutique ayant caractérisé les sessions et à envisager l'après-sessions. Il s'agira donc de voir ce que le sujet ou le groupe envisage de mettre sur pied pour continuer à bénéficier et à faire fructifier les acquis de séances thérapeutiques suivies.

Objectifs

- prendre conscience et renforcer les acquis des séances thérapeutiques précédentes
- évaluer l'apport du « groupe » dans le traitement
- faire le debriefing/briefing pour le follow-up

Verbatim

« Bonjour, quelles nouvelles de la semaine ? Alors, (Aline) comment tu vas ?

Parles-nous de ta semaine passée et de l'exercice ?

Aujourd'hui, nous allons plus porter notre attention au « parcours du combattant » que nous avons réalisé jusque maintenant : où en sommes-nous ?

Changement ? Crispation ? le fait de travailler en groupe a-t-il eu un effet sur le travail réalisé par tout un chacun ? Si oui, quel effet ? Sinon, quelle est la crispation ? »

Tâches à domicile

Préparer une évaluation de la thérapie dans une semaine

Remplir les questionnaires de recherche

- UCLA PTSD
- BDI
- CERT
- Situational and Emotional Exposure scale
- Social Sharing Benefit scale
- UCLA Loneliness Scale

Références

- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345.
- Ehlers, A., Mayou, R. A., & Bryant, B. (1998). Psychological predictors of chronic posttraumatic stress disorder after motor vehicle accidents. *Journal of Abnormal Psychology*, 107(3), 508-519.
- Ehlers, A., Mayou, R. A., & Bryant, B. (2003). Cognitive predictors of posttraumatic stress disorder in children: results of a prospective longitudinal study. *Behaviour Research and Therapy*, 41(1), 1-10.
- Michael, T., Halligan, S. L., Clark, D. M., & Ehlers, A. (2007). Rumination in posttraumatic stress disorder. *Depression and Anxiety*, 24(5), 307-317.
- Mirzamani, S. M. (2006). Social support and recovery from PTSD. *Iran Journal of Psychiatry*, 1, 112-116.
- Rimé, B.(2005). Le partage social des émotions. Paris, PUF.
- Watkins, E., Scott, J., Wingrove, J., Rimes, K., Bathurst, N., Steiner, H., et al. (2007). Rumination-focused cognitive behaviour therapy for residual depression: A case series. *Behaviour Research and Therapy*, 45(9), 2144-2154.

FORMULAIRES A REMPLIR AU DEBUT DES SEANCES

Formulaire de consentement éclairé à la participation de l'étude : Séances thérapeutiques du PTSD

Je, soussigné(e).....,

après avoir pris connaissance des informations suivantes :

- durant l'étude, je vais m'engager dans un travail personnel de mon expérience du génocide,
- durant les séances thérapeutiques, je bénéficie du soutien du thérapeute et des membres du groupe thérapeutique,
- au cours des séances, je vais participer à la recherche sur le traitement du PTSD en répondant à des questionnaires qui me seront remis par le thérapeute,
- je peux arrêter ma participation à l'étude à tout moment quand je le souhaite et sans devoir m'expliquer,
- toutes les données recueillies resteront strictement confidentielles et ne serviront que pour les objectifs de cette étude,
- après l'étude, je peux demander des informations relatives aux résultats de l'étude ;

donnes mon consentement à participer à cette étude sur le traitement du PTSD.

Date : le/...../ 2008

Signature,.....

Contrat thérapeutique⁷

Moi

.....,

après avoir pris connaissance du contenu et des objectifs de la thérapie, je m'engage à

m'investir et à participer à toutes les séances de la thérapie. Au cours de séances,

j'accepte de respecter les règles de protection du groupe. Pendant la thérapie, je m'engage

à travailler la difficulté

.....

.....

Les indicateurs de changement :

.....

.....

Les autres membres du groupe et thérapeute s'engagent aussi à m'aider dans ce projet
thérapeutique.

Date :

Nom et Signature du thérapeute

Nom et signature du participant

⁷ Umuhigo : Chacun complète, signe le contrat thérapeutique. Après avoir élaboré son contrat, le client lit et signe devant les autres le contenu de son contrat. En retour, il a les applaudissements des autres pour lui signifier leur encouragement. Le contrat est gardé par le client.

NIJMEGEN MOTIVATION LIST 2 (NML 2)

Echelle de détermination à faire la thérapie

(Traduction non validée de Keijsers et al., 1999)

Veillez indiquer à quel point vous êtes en accord avec les affirmations ci-dessus. Pour ce faire, entourez un chiffre à partir de 1 « pas du tout d'accord » jusqu'à 6 « tout à fait d'accord ».

	1	2	3	4	5	6
Pas du tout d'accord						Tout à fait d'accord
1. Je vais faire tout ce qu'il est possible pour me débarrasser de mes problèmes	1	2	3	4	5	6
2. J'ai immédiatement besoin d'une aide pour résoudre mes problèmes	1	2	3	4	5	6
3. Je suis certain que j'appliquerai à la maison ce que j'apprends en séance	1	2	3	4	5	6
4. Je m'attends à tirer davantage de bénéfices de la thérapie si j'y participe activement	1	2	3	4	5	6
5. Je suis disposé à renoncer à d'autres activités pour aller aux séances de traitement	1	2	3	4	5	6
6. Je maintiens mes rendez-vous, quoiqu'il arrive	1	2	3	4	5	6
7. Je suis prêt à travailler sur moi-même depuis quelque temps	1	2	3	4	5	6
8. Pour aller aux séances de thérapie, je suis disposé à reporter d'autres rendez-vous	1	2	3	4	5	6
9. En suivant une thérapie, j'ai pris la bonne décision	1	2	3	4	5	6
10. Je crois que ce traitement m'aidera à me débarrasser de mes problèmes.	1	2	3	4	5	6